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BUSINESS WEEK

INDEX YEAR AGO

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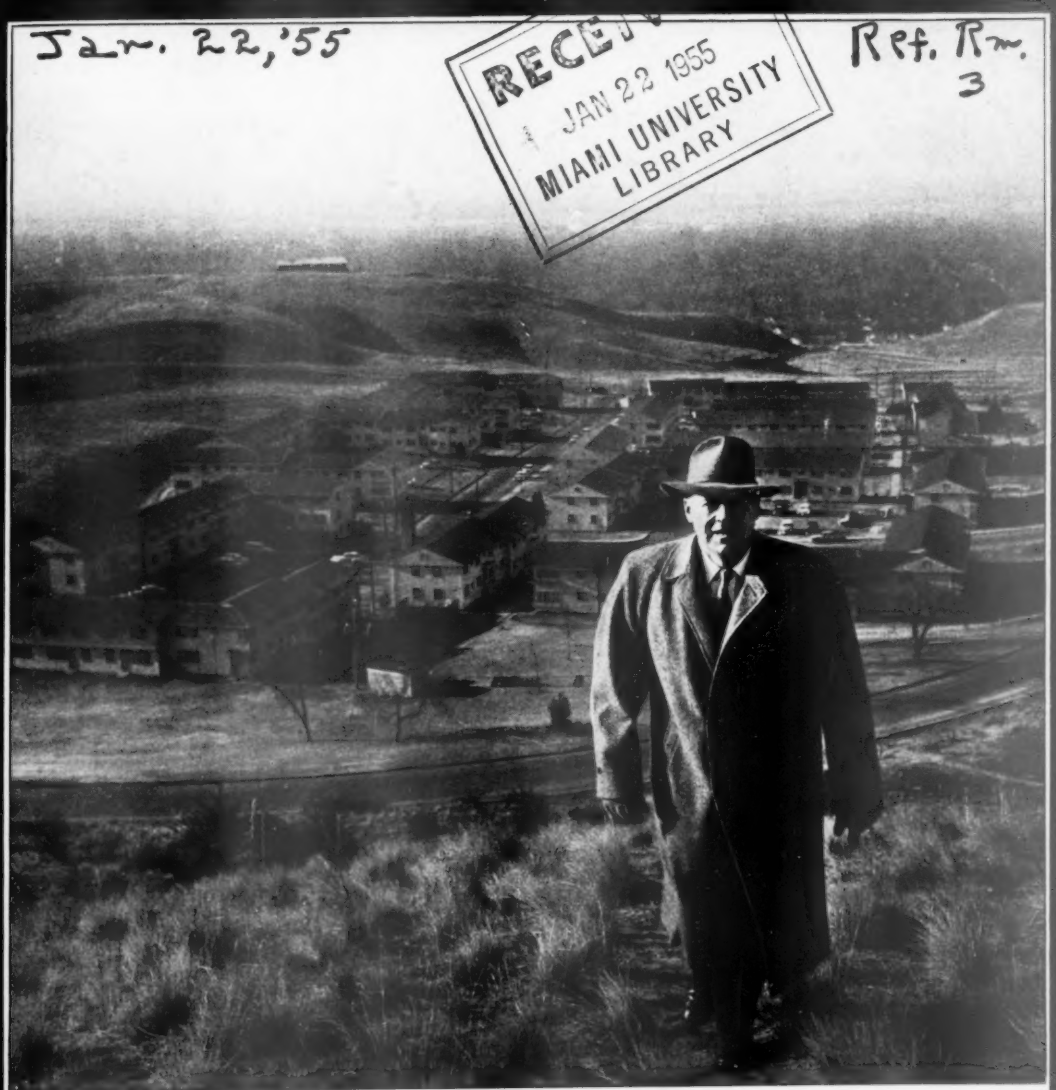

J. R. Simplot of Boise: How to make a million in Idaho (page 146)

A McGRAW-HILL PUBLICATION

JAN. 22, 1955

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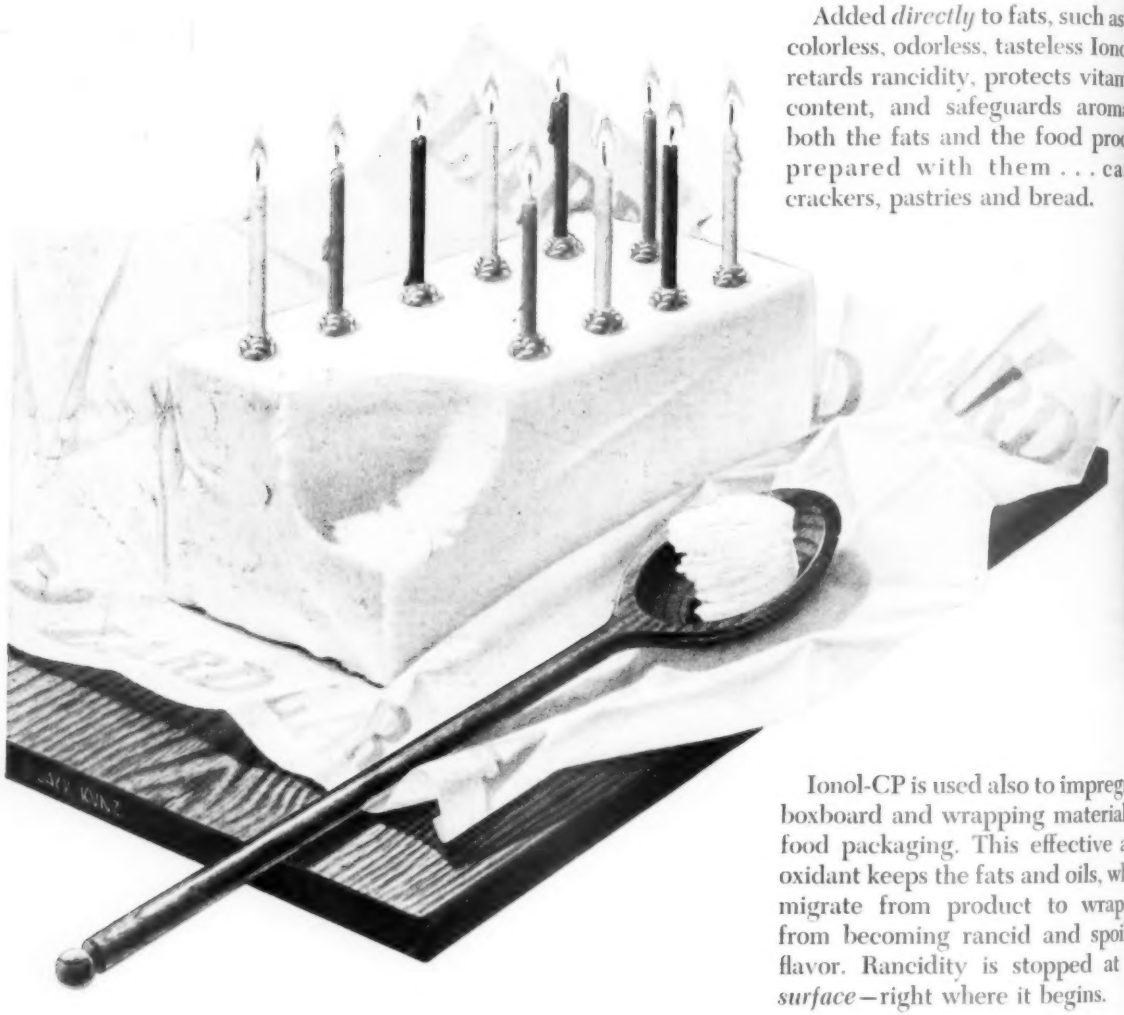
PERIODICAL RECORD
OXFORD OHIO

Many more happy returns

Now edible fats and oils—as we as foods containing them—st fresh and sweet longer. Ionol®-CP, new antioxidant, multiplies the shelf life . . . gives them *more* "happ birthdays."

Added *directly* to fats, such as lar colorless, odorless, tasteless Ionol-C retards rancidity, protects vitamin content, and safeguards aroma—i both the fats and the food product prepared with them . . . candy, crackers, pastries and bread.



Ionol-CP is used also to impregnate boxboard and wrapping material for food packaging. This effective antioxidant keeps the fats and oils, which migrate from product to wrapper, from becoming rancid and spoiling flavor. Rancidity is stopped at the *surface*—right where it begins.

Ionol also extends the life of cosmetics, drugs, lubricants, plastics and rubber. It is an example of the many Shell Chemical advances which improve industrial and agricultural products.

Shell Chemical Corporation

Chemical Partner of Industry and Agriculture

NEW YORK

RESEARCH KEEPS **B.F.Goodrich** FIRST IN RUBBER

Fastest way to "raise" potatoes

A typical example of B. F. Goodrich improvement in rubber

GETTING 100-pound sacks of potatoes up to the second floor was causing plenty of trouble in this potato chip plant.

The climb is so steep the sacks would slip and slide down faster than the moving belt could carry them up. Breaking up jams at the bottom and holding the sacks on the belt kept a man busy every minute. It looked as though the only remedy was to lengthen the conveyor to reduce the steepness of the slope—a costly, inefficient way.

But before this happened, a B. F. Goodrich man heard of the trouble and told the plant engineer about Ribflex—an improved kind of package-handling belt. It's made with parallel ribs of rubber that are cross cut into thousands of flexible grip blocks. The tiny rubber blocks are tough enough to stand years of use, yet soft so they bend just enough to grip anything carried on the belt and move it easily, quickly.

Now, with the B. F. Goodrich belt, the potatoes march right up the incline with no slips, no slides, no help.

Product improvement like this is *always* going on at B. F. Goodrich. New ways are constantly being found to make conveyor belts, V belts and hose work better, last longer. No product is ever regarded as "finished" or standardized.

How this cuts your costs: Because of these improvements and because B. F. Goodrich is one company that will *never* lower its quality standards, you can be sure of top performance and real money savings when you specify B. F. Goodrich. To find out about the latest improvements in the rubber products your company uses, call your B. F. Goodrich distributor or write *The B. F. Goodrich Company, Dept. M-360, Akron 18, Ohio.*

B.F.Goodrich
INDUSTRIAL PRODUCTS DIVISION

Breaking Through the Cost Barrier with **UNIVAC 120** Punched-card Electronics

A whole new world of vital facts about your business has been opened up . . . by punched-card *electronic computing!*

The raw figures have always been on hand . . . costs, sales, price changes, volume, location . . . and hundreds of other factors. But integrating and interpreting them would have meant too much mathematics, too much time and too much money for most concerns.

Miraculous electronic accounting has changed all that. Today, you can get the answers simply, economically . . . *in hours or even minutes!*

The new UNIVAC 120 punched-card computer reveals the crucial factors behind your profit changes, weighs the relative effect of each. At last, you can make decisions based on complete facts . . . *immediate* facts.

UNIVAC 120 was created by the same skill and experience that produced famous UNIVAC itself. And other applications for UNIVAC 120 are endless . . . payroll, production scheduling, billing, scientific and engineering figurework, to name a few.

Why don't you put it squarely up to us to show how UNIVAC 120 punched-card electronic computer methods can boost *your* profits? Room 1109, 315 Fourth Avenue, New York 10, N. Y.

Remington Rand ELECTRONIC SYSTEMS

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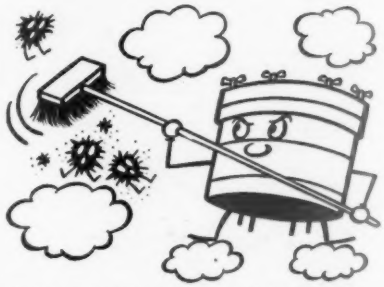
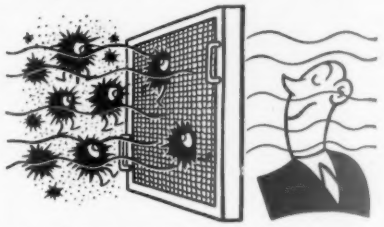
AIR-MAZING FACTS

BY O.SOGLOW

UNDER PRESSURE? No wonder! At this very minute air pressure is pushing down on the top of your head with a force of more than 500 lbs. You don't notice it—it's no problem—but the dirt in this air can be . . .



SCRUBS AIR CLEAN OF DESTRUCTIVE DIRT! Engines and compressors last longer when abrasive dirt and grit can't get in to damage polished pistons, cylinder walls, rings and valves. Air-Maze oil-bath filters literally "scrub" intake air clean in a bath of oil.



BAD AIR GETS FRESH START! Air-Maze air filters keep damaging dust and grit out of hotels, office buildings, stores—wherever clean air is required. Available in a large variety of types and sizes including unit panels, rotating curtains and self-washing electrostatic precipitators.

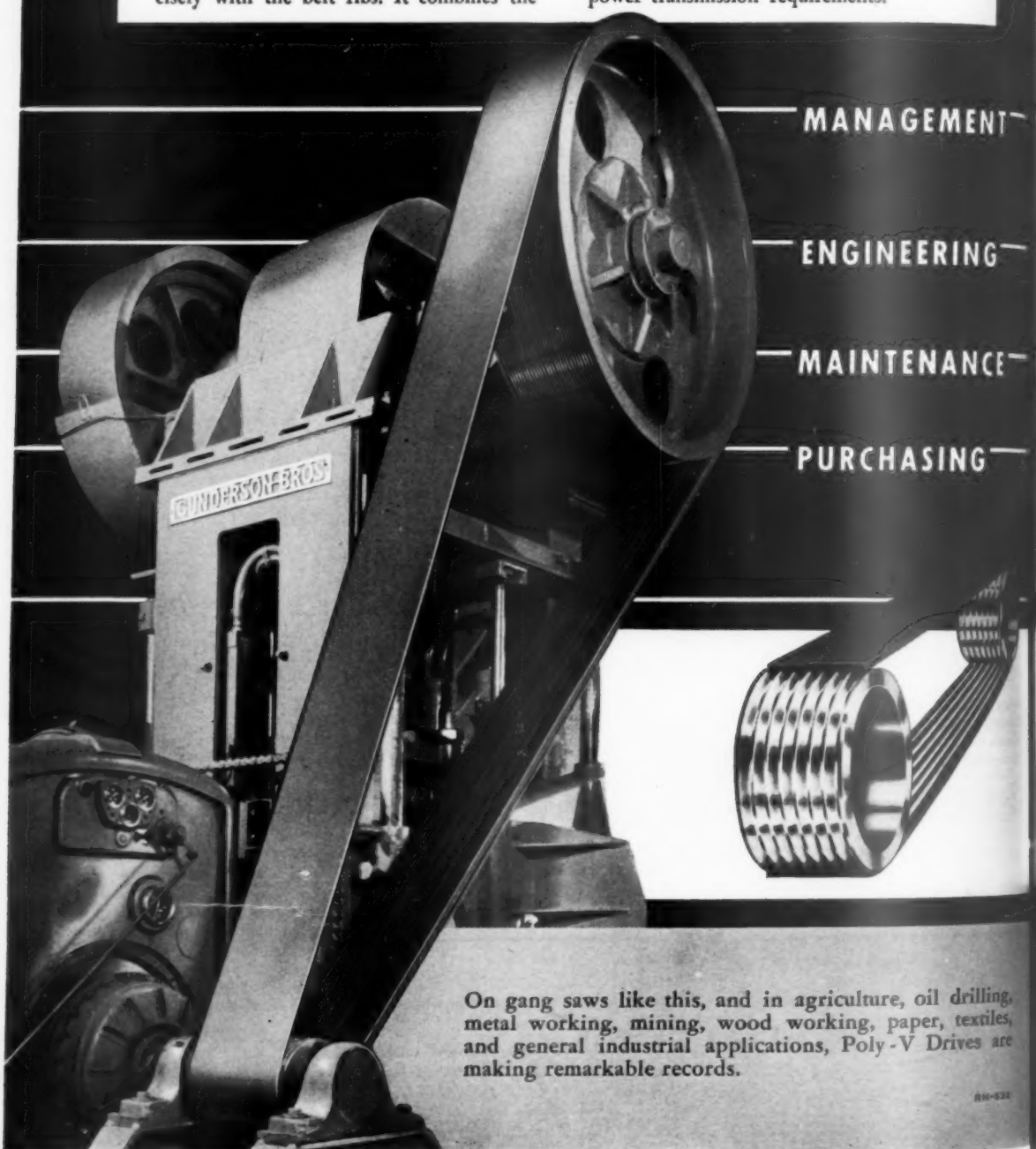
IF YOU BUILD OR USE engines, compressors, air-conditioning and ventilating equipment, *or any device using air or liquids*—the chances are there is an Air-Maze filter *engineered* to serve you better. Representatives in all principal cities. For condensed product catalog, write Air-Maze Corporation, Dept.C, 25000 Miles Rd., Cleveland 28, Ohio.

AIR-MAZE
The Filter Engineers

AIR FILTERS • SPARK ARRESTERS • LIQUID FILTERS
SILENCERS • OIL SEPARATORS • GREASE FILTERS

a basically NEW DRIVE

The Poly-V Drive looks — and performs — like no other belt drive you've ever seen. That's because it's a basically new concept in power transmission drives developed and patented by Raybestos-Manhattan. Poly-V Drive employs a single, endless, parallel V-ribbed belt running on specially designed sheaves with grooves made to mate precisely with the belt ribs. It combines the simplicity and strength of flat belts with the high V-groove grip and positive tracking of V-belts . . . saves space, increases drive capacity and efficiency and assures longer life for both belts and sheaves. By all means, have your engineers look into the advantages of Poly-V Drives for your power transmission requirements.



On gang saws like this, and in agriculture, oil drilling, metal working, mining, wood working, paper, textiles, and general industrial applications, Poly-V Drives are making remarkable records.

RM-532

. . for power transmission

poly-v® drive

an exclusive Raybestos-Manhattan development offers you advantages never before possible

For you whose responsibility it is to be alert to changes for the advancement of your company and its products, here is a way to important **savings in space and ultimate costs.** Investigate Poly-V Drives for the machinery that runs your plant . . . also, for the power driven equipment you make and sell. Because the Poly-V Drive has outstanding advantages for equipment users, as well as manufacturers, you can realize greater sales appeal for your product with Poly-V as original drive equipment.

Poly-V gives **greater power transmitting capacity** because of its high hydrostatic grip, low slip, high efficiency. You get up to 50% more power delivery in the same drive space as standard V-belt drives . . . or equal power in less space! The "single unit" design of Poly-V Belt eliminates sinking of belt in sheave grooves . . . assures more constant effective pitch diameters and speed ratios even under shock loads.

The Poly-V Drive **eliminates multiple V-Belt matching** and has very little belt stretch in service, requiring fewer tension adjustments after run-in . . . less downtime. The Poly-V Belt parallel ribbed traction surface completely fills and pressures the whole sheave grooved area. This eliminates the possibility of uneven wear in belts and sheaves . . . gives longer drive life.

The Poly-V Drive is the only belt drive that meets *all* heavy-duty drive requirements with **only two sheave groove sizes,** ultimately simplifying and reducing inventories of drive units and greatly increasing their interchangeability.

R/M Engineers are ready to study your drive requirements and recommend the Poly-V Drive best suited for your application. For engineering service or additional information about Poly-V Drive, contact your R/M representative . . . or write for your copy of the Poly-V Drive Bulletin #6638.

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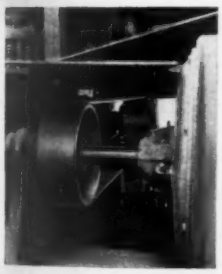
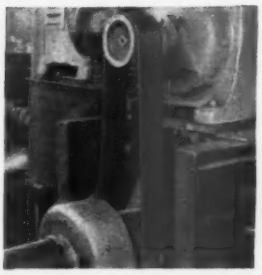
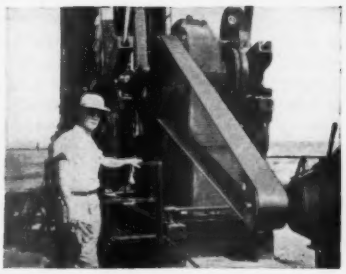


Poly-V in Rock Crushing



Poly-V in Metal Working



Poly-V in Oil Field

Poly-V in Paper Mill

MANHATTAN RUBBER DIVISION—PASSAIC, NEW JERSEY

RAYBESTOS-MANHATTAN, INC.

Flat Belts

V-Belts

Conveyor Belts

Hose

Roll Covering

Tank Lining

Abrasive Wheels

Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Brake Linings • Brake Blocks • Clutch Facings • Asbestos Textiles • Packings • Engineered Plastic, and Sintered Metal Products • Bowling Balls

R/M

The Thinking of American

LUMBER DEALERS
and sawmill operators... find it profitable to mechanize more and more of their figure-work with the fully automatic Friden Calculator. The Friden short-cuts figuring on tally sheets, space estimates, conversion computations, invoicing

CHAIN FOOD STORES
...take inventory a cost-cutting, more accurate way on the fully automatic Friden Calculator. Quantities and prices are entered directly into the machine, eliminating writing, main office tabulating, extending and checking of inventory sheets

INSURANCE AGENCIES
...use the fully automatic Friden Calculator to insure accuracy and save time (often 50%!) in figuring commissions, premiums, prorata and short rate cancellations, endorsements

BANKS
...compute savings account interest swiftly and with unvarying accuracy on the fully automatic Friden Calculator; figure average daily balances, foreign exchange, average daily float, amortization, account costs, interest on notes, mortgages, small loans

PLUMBERS
...speed out material and labor estimates with the fully automatic Friden Calculator, also compute and check invoices, do payroll calculations, short-cut many other plumbing figure problems

RAILROADS
...mechanize system figure-work in all departments with the fully automatic Friden Calculator. Applications include interline freight abstracts, waybills, valuation, statistical reports, passenger accounting

MILK PLANTS
...handle milk check register calculations swiftly with the fully automatic Friden Calculator, also figure farmers' payrolls, drivers' load sheets, cost proration, discounts

STEEL MILLS
...streamline production (as well as payroll, cost sheets, tonnage and earnings reports) with the fully automatic Friden Calculator. Fridens estimate quantities and weights on contract specifications; figure weights and values on invoices

PUBLIC UTILITIES
...process volume figure-work in all departments with the fully automatic Friden Calculator. In engineering and maintenance operations, as in the general offices, Fridens reduce time cost on jobs from construction to billing

RESEARCH LABORATORIES
...work intricate equations, raise the power of numbers, determine correlations with the fully automatic Friden Calculator. With a touch of one key, the unique Friden Model SRW extracts square root automatically —for the first time on any desk calculator

AIR LINES
...use the fully automatic Friden Calculator to compute costs per plane mile and per ton mile flown; figure depreciation, freight bills, terminal and maintenance costs; for overhead allocation, payrolls, statistical reports

HOTELS
...prorate room charges, control stock inventories, watch daily costs and handle invoicing with the fully automatic Friden Calculator. Operating statements and payrolls are prepared this modern way

MOTOR FREIGHT FIRMS
...maintain hour-by-hour control of costs with the fully automatic Friden Calculator. Exclusive decision-making Friden features speed prorating of freight charges and the figuring of tariff computation, bills of lading, loading performance, payrolls

PAPER MILLS
and distributors...obtain the statistics and tabulations they need to control costs from tree to consumer with the fully automatic Friden Calculator. Fridens help maintain exacting quality standards, handle payroll calculations, compute invoices and inventory

LAUNDRIES
...reduce overhead by mechanizing figure-work with the fully automatic Friden Calculator. The Friden figures and checks driver tickets, wholesale tickets, route bonuses; prepares invoices payable, payroll and tax calculations, analyzes cost

PETROLEUM REFINERIES
...pace and regulate operations with the fully automatic Friden Calculator. Typical Friden jobs: Volume reductions to 60° F. using new ASTM-IP factors; making BS&W deductions; converting pounds to gallons, gallons to barrels, barrels to long tons, U.S. gallons to Imperial gallons

SCHOOLS
...teach business figure-work with time-saving modern methods on the fully automatic Friden Calculator. Payroll calculations, invoicing, inventory, percentages and interest are taught and learned more efficiently with this versatile "thinking machine"

ENGINEERS
...short-cut complex calculations in building and product design, construction scheduling and cost finding with the fully automatic Friden Calculator. They solve through trigonometrical and arithmetical ...by a touch of one key extract square automatically with Friden model SRW

Machine Business

Deep in the everyday figure-work of *all* business is America's most wanted, most needed calculator. Automatically—*without operator decisions*—the Friden performs more steps in figure-work than any other calculating machine ever developed. Operation is no problem: Anyone can use the fully automatic Friden with the simplest instructions. This Calculator so reduces job time on payroll, invoices, inventory, discounts and statistics that its cost is amortized quickly. Ask your nearby Friden Man to demonstrate time-savings *your* business can make with Friden figure-thinking.

FRIDEN CALCULATING MACHINE CO., INC., San Leandro, California.

DEPARTMENT STORES

...simplify figuring of accounts payable invoices with the fully automatic Friden Calculator, use Friden shortcuts on payroll and statistical calculations, expense distribution, inventory

RESTAURANTS

...use the fully automatic Friden Calculator to quick-check operating expenses, daily item costs, income and invoices, also for payroll and tax calculations

DRUGGISTS

...doing widely varying volumes of business reduce overhead operating cost with the fully automatic Friden Calculator. They use the Friden on inventory, to extend and audit invoices, for payroll and tax calculations

BUILDING and LOAN FIRMS

...compute interest on loans and savings in the simplest way with the fully automatic Friden Calculator, also prorate expenses and figure yields on investments

BUS LINES

...use the fully automatic Friden Calculator to compute costs per passenger mile, to total and analyze ticket sales, process payrolls and invoices payable, break down and allocate maintenance expenses

AUTO DEALERS

...use the fully automatic Friden Calculator for budgeting, daily operating control, auditing of invoices and repair orders, to take parts inventory, figure tax accruals

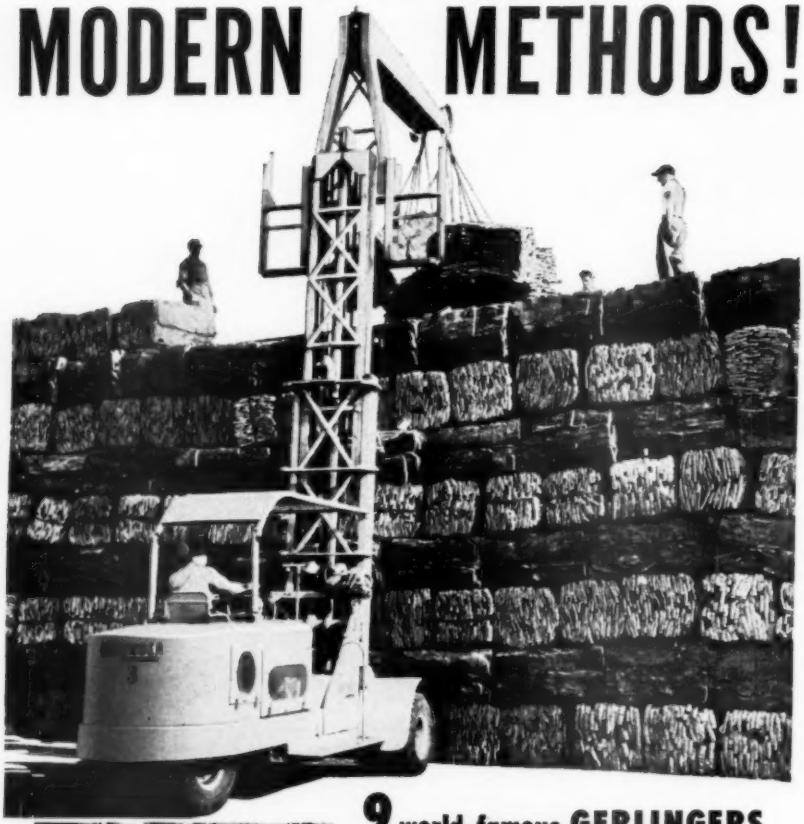
© Friden Calculating Machine Co., Inc.

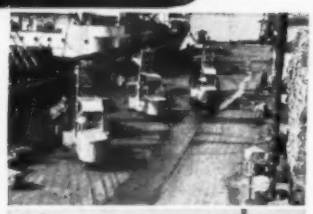
More businesses every day mechanize their figuring with the

Friden

PRODUCTS OF FRIDEN ▸ THE AUTOMATIC CALCULATOR • THE NATURAL WAY ADDING MACHINE • THE COMPUTYPER • THE ADD-PUNCH MACHINE

Even Cork Can Be a HEAVY Expense
...if not handled by
MODERN METHODS!





9 world-famous GERLINGERS cut costs and manhours for world-famous cork company*

Since standardizing on a fleet of nine Gerlinger Fork Lift Trucks, this well-known firm has profited by high-speed transporting and stacking of cork received by ship at its Gloucester City, New Jersey, wharf. The Gerlingers...with crane attachments to pick up 10 bales each at a time ...transport capacity loads from dock to storage area. Here...by special Gerlinger boom attachments...bales are hoisted up to 20 tiers high, safely and swiftly, giving entire operation production-line efficiency.

There's a job-proved Gerlinger for your particular material handling problem... for any product that must be lifted, moved, stacked or stored. Send coupon for details. No obligation.

*Name furnished on request.

"S" SERIES FORK LIFT TRUCKS
5 short wheelbase (106") models.
4 to 8-ton capacity.
Hoisting heights to 16'2"

"L" SERIES FORK LIFT TRUCKS
7 long wheelbase (130") models.
6 to 18-ton capacity.
Hoisting heights to 10'
(others to 24' available).

GERLINGER CARRIER CO.

GERLINGER CARRIER COMPANY
DEPT. K-2 • DALLAS, OREGON

Please send further information and free Gerlinger brochure.

NAME_____

FIRM_____

STREET_____

CITY_____ ZONE____ STATE_____

READERS REPORT

The Nature of the Plan

Dear Sir:

In your Nov. 13 issue [page 175] in Personal Business, there appears an article . . . relative to tax deductions for charitable contributions. The article sets out the basic principles of the "so-called life income plan," "three basic drawbacks in these life-income plans" and "new plan (that) makes it possible to overcome these objections."

We do not take issue with the information contained in the article, but does not the form of the article give the impression that only by investing in "mutual funds" can the tax objective be obtained? Is it not the nature of the plan, rather than the way the funds are invested, which controls?

May we call your attention to the fact that the trust departments of banks and trust companies have been offering trust services for such purposes for a number of years. We believe that such trusts offer a sound investment program and probably at a lower cost than the suggested plan.

CLARENCE E. HINDS
VICE-PRESIDENT & SECRETARY-TREASURER
THE FIRST TRUST CO.,
LINCOLN, NEBR.

• Reader Hinds surmised correctly. It is the nature of the plan rather than the way the funds are invested that controls. The reference was made to mutual funds because so many people are now buying them.

The "Unchurched"

Dear Sir:

The assumption in the letter of Charles Elcock [Changing Patterns, BW—Jan.8'54,p8] . . . that the 66,000,000 persons who are listed in U. S. census reports as members of no church constitute "the group who have no religion at all" must be protested. Perhaps some members of this group do have no religion. Others certainly have if "no religion at all" means "no religion of any kind," and if "any kind" includes all those listed in the Merriam-Webster Unabridged (second edition). Among the acknowledged definitions is: "Acceptance of and devotion to . . . an ideal as a standard for one's life."

Reader Elcock's letter was

Makes "wedding rings" out of solder

This new
KELLER AIR TOOL
solves another production problem

When cylindrical parts are soldered or brazed together, they are sent through a furnace with a ring of solder between them. The ring melts down to form a bond, "marrying" them into a single, integral unit.

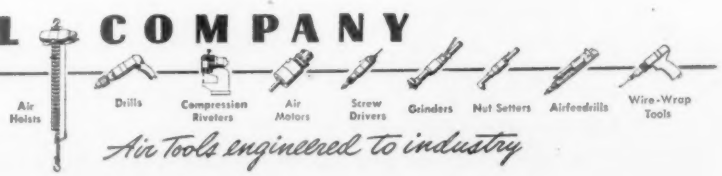
Solder or brazing wire purchased in the form of rings creates a stocking and storage problem, with the nuisance of being short on sizes. Handling them on the production line results in many dropped and wasted rings.

If the solder contains silver or other precious metal, rings are of course too valuable not to be salvaged from the floor . . . but then contamination may affect the quality of the finished work.

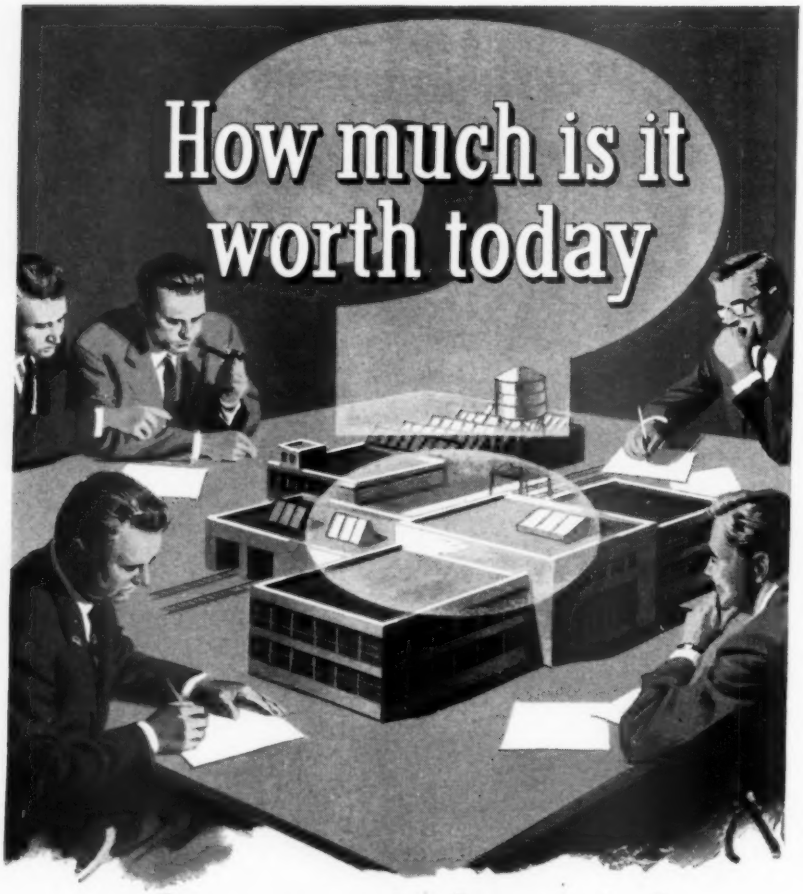
The new air-operated Keller Ring-Former answers these problems by making solder "wedding rings" only as they are needed—placing them right in position around the part where they cannot be dropped. Rings can also be made "in the open," if desired. Thus, rings up to three inches in diameter are made from spool solder, and cut off automatically as they are formed.

A special tool? . . . yes. It is another of the many ways Keller engineering has been enlisted to help production men speed up output, reduce costs and improve quality.

KELLER TOOL COMPANY
1301 FULTON STREET
GRAND HAVEN, MICHIGAN



Air Tools engineered to industry



only a recognized appraisal authority can give you a provable and factual answer

There's no mystery or magic in making an appraisal, assigning a value to a specific property. Most of us make "appraisals" every day, in ordinary business transactions.

But, where the control, pr :- tion, or sale of important property is involved, a personal "guess-estimate" of value isn't enough. To prove "how much is it worth" requires an appraisal backed by documentary proof of accuracy, devoid of personal bias and established by recognized valuation methods.

When you are concerned with valuation problems — related to insurance, legal requirements, corporation finance or property accounting — a logical first step is to find out how a factual appraisal would help. To do this, write us. You can benefit from the specialized advice of a Lloyd-Thomas man . . . representing one of America's most experienced appraisal service organizations.

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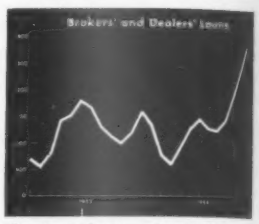
prompted by BUSINESS WEEK article on a minority group . . . entitled "The Fastest Changing Part of the U. S. Market." Among those concerned with such problems, it is a stock irony to quote: "Some of my best friends are _____." In the present case, those of us who are members of organized religious groups may well fill the blank with the adjective, "unchurched," even if they do outnumber all the rest of us.

WILLIAM NEWBERRY

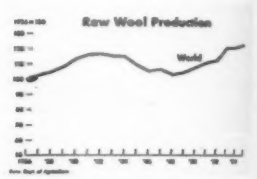
WEST HAVEN, CONN.

CHARTS OF THE WEEK



They're Bolstering the Market

New York City bank loans to brokers and dealers climbed to new highs in recent weeks as trading on Wall Street continued strong. The chart above shows how the banks have been increasing loans to finance this trading. These loans are made against securities pledged by brokers, who then use them to finance purchases of securities and as swaps for customers' purchases. To a large extent, these figures reflect Wall Street's attempts to new assets.



U.S. Sheep Don't Produce Enough

While world production of wool has been gradually but steadily increasing, the importance of the U.S. in that field has been declining. Because of our be

Brokers and Sheep

Dear Sir:

On page 46 of the Jan. 1 issue of BUSINESS WEEK appears a chart showing new highs in stockbrokers' loans. On the same page, a heading proclaims: "U. S. Sheep Don't Produce Enough." At first glance I thought the brokers were complaining about their new crop of customers. Apropos, my guess is the shearing will be under way before this reaches print, regardless of the size of the crop.

W. A. IRWIN

LAFAYETTE, CALIF.

• Above are the charts that tickled Reader Irwin's fancy.

Respect for the Board

Dear Sir:

We note in They Want Something Different [BW—Dec.18'54, p152], that working hours for engineers seem to be coming down—since they are "looking for job satisfaction from 9 until 5"—

How CRUSHED ICE helps reduce swollen power costs

SHIP in trouble? Not at all. It's just a routine situation for which the Coast Guard cutter "Sundew" was designed. This Cooper-Bessemer-powered vessel crushes her way through thick ice to keep shipping lanes open and to rescue helplessly ice-locked ships.

Building diesels for tough jobs like this is an old, familiar story at Cooper-Bessemer. Such diesels *must* be tops in dependability—*must* have plenty of reserve power and extra stamina.

Here's the important thing to remember: . . .

The experience, the cumulative development that makes Cooper-Bessemers a top choice for the *toughest* jobs, means less maintenance, less down-time, less cost in *any* heavy-duty service!

Cooper-Bessemer engines . . . diesel, gas and Gas-Diesel . . . are built for every heavy-duty marine, mobile and stationary service. You'll stay clear of swollen power costs if you check on the *latest* developments offered by one of America's *oldest* engine builders.

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DIESELS • GAS ENGINES • GAS-DIESELS • ENGINE-DRIVEN AND MOTOR-DRIVEN COMPRESSORS • HIGH PRESSURE LIQUID PUMPS

Pick up one in every doorway!

You can save up to $100 on every single door opening you fill with a Fenestra* Hollow Metal Door!

There are four sound reasons why these Door-Frame-Hardware units can give you such important savings:

1. *They cost less to buy* because you get production-line economy —not custom job costs. They are mass produced on special jigs that avoid expensive time and labor.

2. *You save time*—they come to your job complete with pre-fitted door, frame and hardware specifically made for each other. You eliminate planning, ordering and assembling special elements.

3. *You save on installation costs* because these complete units need no cutting, no fitting, no mortising or tapping. Each door is installed and in use in minutes.

4. *You save year after year on maintenance* because Fenestra Hollow Metal Doors can't warp, swell, stick or splinter. They always open easily, smoothly. They close quietly because inside surfaces are covered with sound-deadening material.

There's a door for every purpose in the Fenestra line: Entrance Doors, Flush or Regular Interior Doors with glass or metal panels, Doors with the Underwriters' B Label. For photos and details, write the Detroit Steel Products Company, Dept. BW-1, 3425 Griffin Street, Detroit 11, Michigan. *®

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Architectural, Residential and Industrial Windows • Metal Building Panels • Electrifloor* • Roof Deck • Hollow Metal Swing and Slide Doors

which, with time out for lunch and Saturday off, leaves the famous 35-hour week . . . which "you just can't hardly find no more."

Your closing comments on the drafting board give us pause. As product design and development specialists, we view the drafting board with respect. We have yet to find a means of communicating design ideas or even of working with design ideas which is as effective as the mechanical drawing.

While many types of engineers may actually find the drafting board a "necessary evil," the engineer who specializes in design or development has had his attitude toward drawing corrupted to the extent that he is practically ashamed to admit that he uses a drafting board—which is the only effective way we know for a designer to design. As a creative writer, would you try to describe your plot and characters to a secretary and have the secretary act as draftsman to clothe your story in words and put it on paper? Or as a creative artist try to describe your composition and colors in words, and have a draftsman make your painting? . . .

You express the prevalent idea that engineers must become administrators—for which generally neither their training nor their natural inclinations fit them—in order to be of value to their employers or themselves. The result has been, many times, I am sure, the exchanging of a valuable creative engineer for a lousy administrator, a dollar and cents loss to the company. The error is no doubt industry's in forcing an engineer to switch to administration in order to receive proper compensation for his talents. . . .

GIFFORD M. MAST
MAST DEVELOPMENT CO., INC.
DAVENPORT, IOWA

Gypsum in Nova Scotia

Dear Sir:

I read with great interest the article, Prescription for Nova Scotia [BW—Dec.11'54,p94]. Your analysis of the situation corresponds to my own observation of conditions.

However, I am a little surprised that no mention was made of gypsum, one of Nova Scotia's principal exports. Nova Scotia holds the largest deposits of gypsum commercially available on the North American continent. Over 3-million tons of gypsum are brought down to the United States from Nova Scotia every year.

UNHEARD-OF STRENGTH IN STEEL PARTS...

with a heat treatment developed by Cleveland Pneumatic

NOW YOU CAN DESIGN highly stressed steel parts that will weigh less than you ever thought possible...

At Cleveland Pneumatic, we have developed ways to give steel parts far greater strength and durability than have ever been considered possible... tensile strengths of 260,000 psi in alloys that only a few years ago were limited to 180,000 psi. Years of intensive research in our plant have developed the necessary precise controls... in designing, heat treating, machining and plating and in the important intermediate processing.

Right now, this combination of Cleveland Pneumatic's heat treatment and machining is doing almost unbelievable things for the strength-to-weight ratios of highly stressed steel parts in aircraft. Weights are being reduced without reducing strength... or strength can be increased without "beefing-up" the size and weight of parts.

Wouldn't you like to have your designers and engineers talk with us about using Cleveland Pneumatic high-heat-treat-and machining methods in *your* assemblies? Write to:

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Department B-155

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Direct action gives instant answers. Three-way control prevents errors--signals the operator by sight, sound, touch. Floating touch speeds work, dual-action gives you two machines in one. Call your Comptometer representative, or fill out and return the coupon below.

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In addition to the large payr involved in mining and proces gypsum, items used to maintain erations, such as fuel and steel, also purchased in Nova Scotia the companies concerned. N tional Gypsum, for example, spending over $6-million in d veloping its new project in No Scotia. Therefore, we believe th in this respect the prospect fo Nova Scotia is bright.

Thank you for an informativ article.

JOHN C. Bes

VICE-PRESIDENT
NATIONAL GYPSUM CO.
BUFFALO, N. Y.

Anti Antitrust?

Dear Sir:

In regard to Eastman antitrus suit [BW—Dec.25'54,p24] . . . i Eastman Kodak did not fight an harder than your article . . . indi cated, it will serve businessmen right if they continue to be har assed by government. Color film is a luxury, not a necessity, and affects the cost of living less than coffee. I'll bet that the monopoly enjoyed by the above firm cost the pub lic less last year than it cost the taxpayers to prosecute them. I would be interested in an an swer to this question: Which costs the public most—all the patents, copyrights, trade secrets, etc., of businessmen, or the monopolistic practices of labor unions?

Monopolistic practices, exces sive profits, etc., always invite com petition without petty interference from bureaucrats. Is it possible that much harassment of business is part of a deliberate plan of so cialists and communists to na tionalize all industry?

FRANK J. MEINEN

MEINEN ELECTRIC
CHIPPEWA FALLS, WIS.

Insuring the Mortgage

Dear Sir:

I was pleased to read . . . how home owners with a mortgage can get insurance to make their mort gage payments in the case of disa bility by accident or illness, and that benefits are paid for only 24 months [BW—Dec.18'54,p148].

The Prudential Insurance Co. has . . . recently issued a similar plan but will provide benefits for a period up to 10 years for sick ness disability, and lifetime for ac cident. . . .

GERARD B. TRACY, C.L.U.

GERARD B. TRACY & ASSOCIATES
NEW YORK, N. Y.

We like the door's "electronic politeness"

SOCONY-VACUUM BUILDING
New York City

The new 42-story SOCONY-VACUUM BUILDING will have 32 Otis AUTOTRONIC operatorless elevators. This is the largest of more than 175 new and modernized office buildings, hotels, hospitals, banks, and department stores that have given AUTOTRONIC elevatoring an overwhelming vote of confidence—by buying it!

Owner: Galbreath Corporation
(John W. Galbreath—Peter B. Ruffin)
Architects: Harrison & Abramovitz
John B. Peterkin—Associate
Builder: Turner Construction Company

Passengers quickly discover why they like the Otis Electronic Elevator Door. It's the invisible *electronic zone of detection* that extends in front of the leading edges of both car and hoistway doors up to shoulder height—*as shown in phantom above*. It inspires passenger confidence.

Whenever this *electronic zone* detects a person's presence in the doorway, the doors politely reverse before they can touch the passenger. But if there is no chance of passenger interference, the doors close promptly after each stop.

This *zone of detection* prevents unnecessary delays. If a talkative passenger lingers overlong in the doorway, a buzzer sounds and the doors slowly, firmly—but politely nudge the passenger out of the doorway so that the car can proceed on its way.

The Otis Electronic Elevator Door is the crowning achievement in the field of the operatorless elevator. Its successful development insured the ability of operatorless elevators to move great masses of people in busy buildings with the greatest degree of safety. Ask any of our 268 offices for details.

Otis Elevator Company, 260 11th Ave., New York 1, N. Y.

Otis

COMPLETELY AUTOMATIC
AUTOTRONIC®
ELEVATORING

We've been saying

"Eye Accidents Cost More than

$5.00 Per Worker"

Here's One that Cost $2400*!

Claimant testified that while at work something blew into his eyes; that a fellow worker wiped the eye with a dirty shirttail; that he suffered considerable pain for several months; that several doctors could do nothing to alleviate his suffering. All of the physicians testified and all varied as to the cause of the injury. One theory was that the claimant was a malingerer; another that the claimant had inflicted the injuries himself; another that acid had come into accidental contact with the eye.

After hearing all the testimony, the court decided that the claimant had become blind in one eye as the result of an accidental industrial injury and awarded $24.00 per week compensation for 100 weeks.

98% of industrial eye accidents can be prevented with an adequate Eye Protection Program. It saves eyes. It saves time. It saves litigation. It saves money — in compensation, insurance, idle machines, first aid and in the quality of production turned out. Ask an AO† Safety Representative for details. Or write American Optical Company, 511 Vision Park, Southbridge, Mass., for booklet.

*In compensation alone

American Optical

SAFETY PRODUCTS DIVISION

†T.M. Reg. by American Optical Company

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SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

BUSINESS OUTLOOK

Factory payrolls are fattening now—and will go on fattening—on a tastier diet of hard goods.

It's in durables you still find most of the empty work benches.

Employment and hours worked in soft goods (except to some extent in textiles and coal) already have snapped back.

Betterment in the flow of new orders for hard goods will be primed by 50-million U. S. families.

With take-home pay steady or inching up, most families have a few extra dollars for down payments and installments on big-ticket items.

And producers are taking dead aim at those consumer dollars.

Uncle Sam, as a customer, may not be spending more this year than last on hardware. But, starting last fall, he increased his ordering. That helps manufacturers schedule their own orders.

Business, as a customer for its own machinery production, so far is talking of cutting back a little further. But that's not final.

The flow of consumer dollars is a great stimulant to expansion.

Don't rule out a rising level of business spending on new plant and equipment later this year as volume of new orders swells.

You saw the stirrings of the **hard-goods pickup** some months back.

New orders for durables recovered nicely after August (even though a lot of the gain, in its early stages, was military rather than civilian). **They were close to $12-billion a month by yearend;** the March-through-August rate had been in the neighborhood of $10-billion.

Durable goods, in doing better, won't necessarily cut deeply into soft goods' share of the market.

The fact is that hard goods didn't lose a very great deal.

By selling from inventory, they offset a part of the drop in output. By drawing on the backlog, they offset part of the drop in new orders.

Here's some background on the **value of goods shipped by factories** turning out soft goods and hard:

Nondurables accounted for 63% in prewar 1939. But, since World War II, they've run nip and tuck with hard goods. Soft goods took 49% in 1953; they upped that only to 53% as hard goods slumped in 1954.

Now, as things look for 1955, they'll be back close to 50-50.

—•—

Business, so far in the new year, is living up to expectations. It's advancing ever so slowly from late-1954 levels while showing excellent gains over a year ago (Business Week Index, page 21).

Such a pattern should be typical for some months, at least.

Production closed out 1954 at the year's best level. The Federal Reserve Board's index caught December at 130 (30% higher, that is, than the 1947-49 average). Each month now will be "the best since 1953."

December, it might be noted, was a midway mark of sorts—7 points higher than 1954's low but still 7 points under 1953's high.

We've recovered enough so that future gains will be laborious.

Bear in mind that steel output once again is 2-million tons a week (a lot of metal, even if some capacity is still idle). And auto output, due to top 600,000 in January, will be the highest ever for the month.

Better operations in steel and autos account for most of the recovery scored so far in metalworking industries.

Yet autos and steel cover a good deal of the field, particularly with their suppliers and allied lines. Thus gains scored in other metalworking lines, good as they may be individually, will make themselves felt only mildly on a scoreboard such as the Federal Reserve's index.

Soft goods haven't far to go to equal their 1953 highs. A couple of percentage points would do it.

Thus the margin for expansion here isn't great either (except for a few lines such as the long-depressed textiles).

Production prospects, added up, offer no swift boom—or bust.

The signs point rather to competition, few marked price changes, a slow and gentle recovery. Strike fears alone might cause inventory accumulation. Steady rather than flashy is probably the word for it.

—•—

Prices of manufactured goods entered January right where they were a year ago—marking **18 months of almost unbelievable stability.**

The Bureau of Labor Statistics index of all wholesale prices other than farm products and foods is clinging right around 114½. It hasn't varied more than three-tenths of a point from that level since mid-1953.

By way of contrast, farm prices at wholesale have tumbled almost 10% in that same period.

—•—

Cost-of-living figures probably won't behave so angelically in the next two or three months, but neither will they be kicking up much of an inflation fuss.

Food prices will go higher, seasonally. Meat, in particular, should average about 10% above recent lows. However, **most of the bounce is out of rents,** long the troublemaker.

—•—

Stiffening in money rates attracted unusual headline space this week (page 60). Business loans will be a little dearer, but the attention centers on what the effects may be on mortgage lending.

Even the stock market took notice. There was talk during Monday's break about how the 1946 crash was preceded by tighter money.

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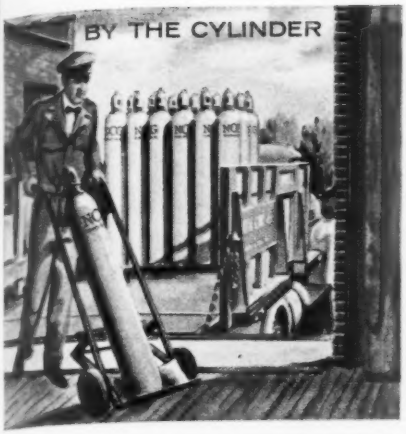

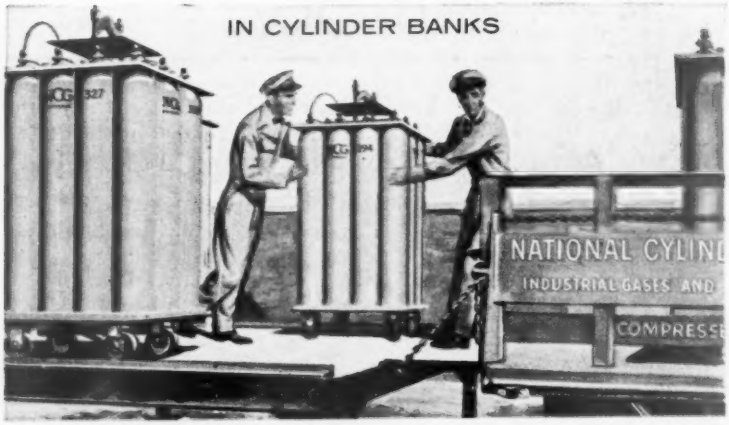

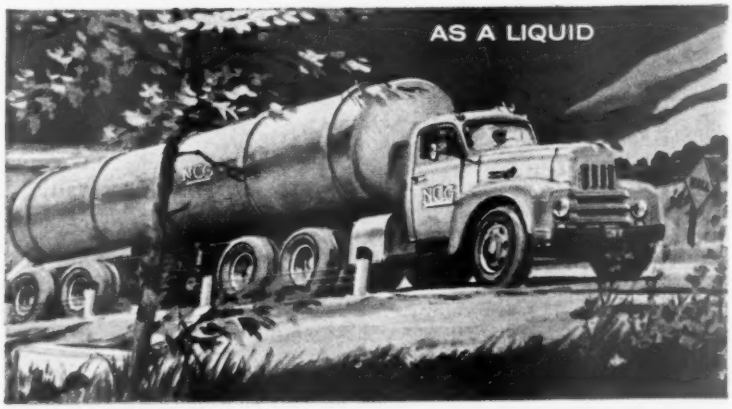

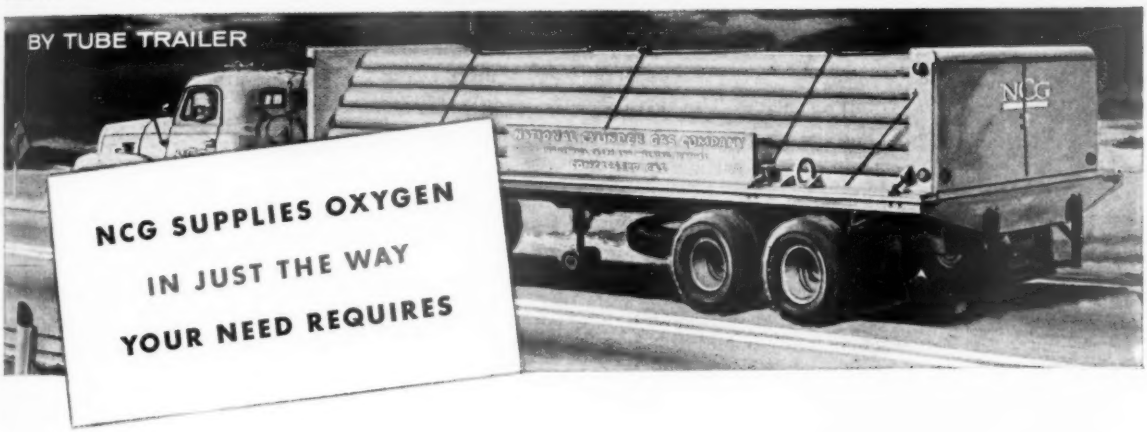

NCG SUPPLIES OXYGEN IN JUST THE WAY YOUR NEED REQUIRES

The needs for oxygen in industry vary as widely as the multitude of processes and operations that use it. Some plants devour as much oxygen in an hour as others do in a month. But whether the volume required is very large or relatively small, it is always a fact that an unfailing supply is *vital*. Neither people nor processes can wait for oxygen.

NCG has become a leading supplier of oxygen because NCG has won the confidence of thousands of industrial users. NCG technicians have not only aided in the proper use of oxygen but they have always made sure service and supply would be adequate continuously for each customer's changing requirements.

You too can rely on NCG. The nationwide NCG organization will serve you reliably wherever your needs require. Your inquiry will have prompt attention. Write today.

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NATIONAL CYLINDER GAS COMPANY

EXECUTIVE OFFICES

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GOODYEAR INDUSTRIAL PRODUCTS
G.T.M.-Specified Special Dry Materials Hose for Handling Hot Catalyst
A Special heat-, abrasion- and corrosion-resistant tube
B Heavy, single-layer fabric reinforcement for strength with flexibility
C Tough, wear- and weather-resistant cover
A
B
C

Cheapest Way to Give a Catalyst Nine Lives – or More!

COSTLY vacuum cleaning operation for a Western oil refinery was sucking hot catalyst from the regenerator of their fluid cracking unit. First flexible metal tubing, then steel pipe was used to conduct the extremely abrasive particles to the storage tank under 18" vacuum. But the tubing pulled apart in as little as *two minutes*. The pipe failed in only *48* hours.

The G.T.M.—Goodyear Technical Man—recommended a special dry materials hose with a highly heat- and abrasion-resistant tube and full-faced, built-in flanges. At last report, this designed-to-the-job hose had served a total of *144 hours* and looked good for much more.

Hose is a specialty of the G.T.M. He has over 800 types in actual production—hundreds more under development—all designed to lower your hose costs. You can benefit from his experience by contacting your Goodyear Distributor or Goodyear, Industrial Products Division, Akron 16, Ohio.

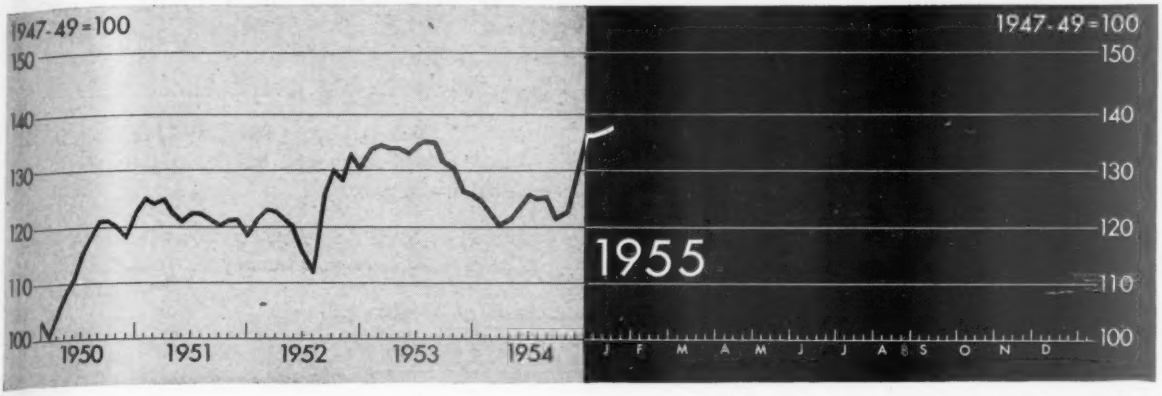
YOUR GOODYEAR DISTRIBUTOR *can quickly supply you with Hose, Flat Belts, V-Belts, Packing or Rolls. Look for him in the yellow pages of your Telephone Directory under "Rubber Products" or "Rubber Goods."*

GOODYEAR

THE GREATEST NAME IN RUBBER

We think you'll like "THE GREATEST STORY EVER TOLD"—every Sunday—ABC Radio Network—THE GOODYEAR TELEVISION PLAYHOUSE—every other Sunday—NBC TV Network

FIGURES OF THE WEEK



Business Week Index (above)

	§ Latest Week	Preceding Week	Month Ago	Year Ago	1946 Average
Business Week Index (above)	*137.0	†136.0	137.2	124.7	91.6
PRODUCTION					
Steel ingot production (thousands of tons)	1,989	†2,007	1,726	1,766	1,281
Production of automobiles and trucks	183,572	†177,877	179,866	149,841	62,880
Engineering const. awards (Eng. News-Rec. 4-week daily av. in thousands)	$56,953	†$60,014	$50,319	$32,542	$17,083
Electric power output (millions of kilowatt-hours)	9,923	9,833	9,909	9,014	4,238
Crude oil and condensate production (daily av., thousands of bbls.)	6,689	6,574	6,375	6,333	4,751
Bituminous coal production (daily average, thousands of tons)	1,418	1,486	1,463	1,365	1,745
Paperboard production (tons)	255,794	204,172	252,701	243,316	167,269
TRADE					
Carloadings: manufactures, misc., and l.c.l. (daily av., thousands of cars)	61	61	67	64	82
Carloadings: raw materials (daily av., thousands of cars)	39	38	42	40	53
Department store sales (change from same week of preceding year)	+13%	−1%	+4%	+6%	+30%
Business failures (Dun and Bradstreet, number)	200	198	208	200	22
PRICES					
Spot commodities, daily index (Moody's Dec. 31, 1931 = 100)	413.6	413.2	408.1	418.3	311.9
Industrial raw materials, daily index (U. S. BLS, 1947-49 = 100)	90.9	90.6	88.8	82.3	††73.2
Foodstuffs, daily index (U. S. BLS, 1947-49 = 100)	90.7	90.8	90.2	97.2	††75.4
Print cloth (spot and nearby, yd.)	19.2¢	19.2¢	18.6¢	19.7¢	17.5¢
Finished steel, index (U. S. BLS, 1947-49 = 100)	144.7	†144.6	144.7	141.4	††76.4
Scrap steel composite (Iron Age, ton)	$34.50	$34.33	$32.83	$28.50	$20.27
Copper (electrolytic, Connecticut Valley, E&MJ, lb.)	30.000¢	30.000¢	30.000¢	29.960¢	14.045¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.)	$2.44	$2.44	$2.48	$2.37	$1.97
Cotton, daily price (middling, ten designated markets, lb.)	34.10¢	34.15¢	34.15¢	33.19¢	30.56¢
Wool tops (Boston, lb.)	$2.02	$2.02	$2.08	$2.12	$1.51
FINANCE					
90 stocks, price index (Standard & Poor's)	278.0	281.8	279.5	202.5	135.7
Medium grade corporate bond yield (Baa issues, Moody's)	3.46%	3.45%	3.45%	3.71%	3.05%
Prime commercial paper, 4-to-6 months, N. Y. City (prevailing rate)	1¼–1½%	1¼–1⅜%	1¼–1⅜%	2⅛%	¾-1%
BANKING (Millions of dollars)					
Demand deposits adjusted, reporting member banks	57,981	57,857	57,926	56,044	††45,820
Total loans and investments, reporting member banks	85,481	85,824	86,470	79,778	††71,916
Commercial and agricultural loans, reporting member banks	22,237	22,334	22,359	22,846	††9,299
U. S. gov't guaranteed obligations held, reporting member banks	36,513	36,573	37,174	32,870	††49,879
Total federal reserve credit outstanding	25,739	26,207	26,487	26,230	23,883

MONTHLY FIGURES OF THE WEEK		Latest Month	Preceding Month	Year Ago	1946 Average
Bank debits (in millions)	December	$186,317	$156,843	$168,596	††$85,577
Wholesalers' inventories (seasonally adjusted, in millions)	November	$11,718	$11,727	$11,930	$5,489
Retailers' inventories (seasonally adjusted, in millions)	November	$22,116	$21,996	$22,437	$9,791
Retail sales (seasonally adjusted, in millions)	November	$14,361	$14,071	$14,104	$8,541

* *Preliminary, week ended Jan. 15, 1955.* † *Revised.* †† *Estimate.* § *Date for "Latest Week" on each series on request.*

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RESEARCH:

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Now well underway, this huge Inco recovery plant near Copper Cliff, Ontario, has the tallest smelter chimney in the world; its stainless steel cap is 637 feet above the ground.

Soon...iron from a Nickel mine!

Pioneering new Inco process will add 1,000,000 tons a year to North America's high-grade iron ore resources

For years, all over the world, iron from nickel ore has been wasted in slag or tailings. No one had found out how to extract this iron economically.

Now, after years of laboratory and pilot plant study, International Nickel Company has solved the problem with its new atmospheric pressure ammonia leaching process.

Building huge, new plant!

As a measure of the promise of this new process, International Nickel is putting $16,000,000 into the first unit of a huge new plant.

The equipment to be used is truly gargantuan requiring some of the largest machines of their types in the world. And the production potential of this Inco-made, miniature Mesabi is 1,000,000 tons of iron ore a year. The highest grade iron ore ever produced in quantity on the North American Continent!

Many recent Inco advances in extraction metallurgy!

Copper-nickel separation by matte flotation! Oxygen-flash smelting of copper concentrates! And now, iron from nickel ore! All part of an improvement and expansion program that will cost over $200 million. These outstanding advances reflect International Nickel's continuing interest in stepping up production and in keeping costs down.

If you have a problem in which corrosion, high or low temperatures, stresses or fatigue resistance are troublesome factors, let's talk it over.

Two minds are always better than one, and we may be able to help you find out how well nickel or a nickel alloy may solve a troublesome problem for you.

Write for ..."List A" of available publications.

THE INTERNATIONAL NICKEL COMPANY, INC.

INCO

67 Wall Street **New York 5, N. Y.**

Giant trees were uprooted and broken like matchsticks by winds of more than 100 miles an hour.

Out-of-town convoy heads for the hurricane area.

Telephone Men and Supplies Were on the Way Before the Winds Died Down

Carol, Edna and Hazel, as you may remember, were no ladies. They came raging in from the sea, to leave New England and eight eastern states reeling from the wrath of wind and flood.

It was, as always, a challenge to the telephone companies. Local employees responded instantly. Companies in other states were quick to send help.

"The hurricane had not blown itself out," said one newspaper editorial, "before aid was on its way. Expert repair crews with their familiar green trucks hurried into the stricken communities with the dispatch of reserve army divisions rushing to stem an enemy break-through in a vital battle line."

Along with the will and the skill of telephone people to handle emergencies came the millions of miles of wire and the thousands of tons of equipment that were needed for the job. These were provided by Western Electric, the Bell System's manufacturing and supply unit.

One of the heart-warming things to us was the friendly understanding of the people in the storm-ridden communities.

To them go the thanks of all the telephone men and women who took part in the work of restoration.

Many automobiles were almost submerged by floods.

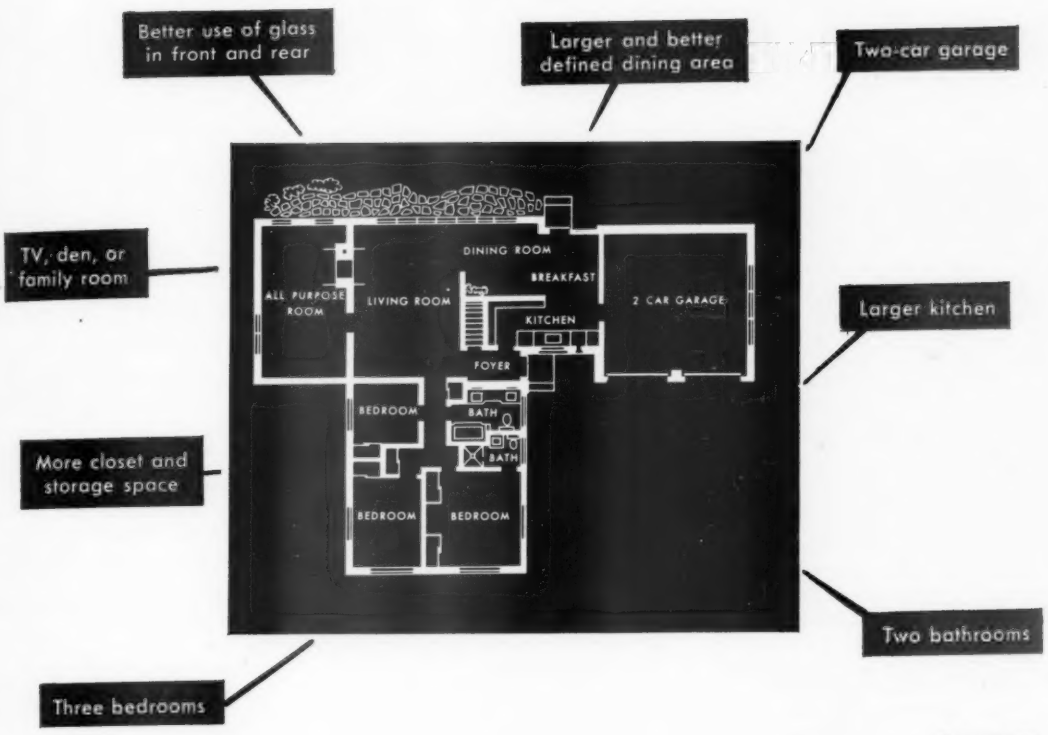
"Thanks," says local installer to out-of-town helper.

BELL TELEPHONE SYSTEM

Local to serve the community. Nationwide to serve the nation.

The 1955 House:

Here's What People Want



WHAT MATTERS ABOUT A HOUSE NOW IS . . .

There's a New Set of Buyers

Glance again at the notes on the drawing above. They sum up the major features of the house of 1955—a house very different from the one that the building industry was slapping together in the early postwar years.

The difference has come gradually during a string of busy years for the industry. But it is clear now. Just as the house of, say, 1947 reflected the urgent need of that day for four walls and a roof, the house of 1955 reflects new needs and tastes under new circumstances.

Today's housing market is thriving (page 26), but it is nevertheless a buyer's market. The buyer can just about dictate what he wants, and the builder must go along.

• **Specifications**—What the buyer wants today is:

• More house. The family that could squeeze into a two-bedroom development bungalow a few years ago now needs three or four bedrooms, an extra bathroom or at least a lavatory, a separate dining room or a bigger and better-defined dining space, maybe a den or TV room, a bigger kitchen.

• More value, even at a price. Besides more and bigger rooms, the buyer wants more land, more landscaping, more gadgets, more individuality in de-

sign. In a servantless age, the house must be planned for easier housekeeping, for more leisure time.

• Easier credit. Americans don't want to rent—and few houses are being built for rental—but they want to be able to buy as painlessly as rent.

• A distinctively suburban way of life. More than ever, cities are losing population to their suburbs. The people who flee from city apartments and from crowded city residential districts want something more than an apartment-scale house set on a cramped lot.

• **Knowing Critic**—The buyer today knows what he's looking for. He can afford to take his time till he finds it—he's not being pushed by a need for shelter of any kind, as he was when he came back from World War II or from Korea.

Moreover, in a lot of cases he's on his second round of home-buying. He has had the experience of living in tight quarters, and he is firmer than ever in his insistence on the extra bedroom and bath, the separate dining room or den. With easier credit under the Housing Act of 1954, he feels he can swing it.

"Don't forget," says an Atlanta architect, "that the 1947 buyer's pay and social standing have increased. Now he can afford to look for a house that's big without looking like a barn, that's sexy enough to compare favorably with the pictures in the home magazines, that's comfortable for the entire family, growing as it is."

• **Prestige**—In some ways, the shopper for a house is looking around as a shopper for a new car would do. He wants good engineering at an attractive price, yes—but he also wants the most social prestige he can buy. He wants his new house to be a sign of his worldly success.

This is one reason an Omaha builder isn't pushing central air conditioning. "Buyers don't seem to go for it," he says. "They prefer window units, and I think I know why. Built-in air conditioning isn't visible but a window unit that can be seen from the street adds swank."

The same concern over social approval guides the buyer's taste in architecture. He wants to be a little different from his neighbor—but not too much. Builders describe their best-selling designs as "modern but not extreme, mind you" and "modified contemporary." In Louisville they're still clucking over the experience of a New Orleans builder who came in to build 1,200 modernistic houses a year; that was nearly two years ago and only 600 have been sold.

"Most people are on the conservative side," says a Denver developer. "If you do build contemporary houses, it helps to build them in clumps. Then people don't feel so strange."

An Omaha builder says lending agencies, including VA and FHA, discourage any yearnings for "houses that are modern in appearance and functional in layout—the kind you see in House Beautiful." They penalize houses that depart from the conventional.

Still, prestige is a big sales gimmick. "Prestige-size 23-foot living room," says an ad for a $14,950 Denver development house. And, for a car-minded public: "Closet space 2½ automobiles long."

• **Most in Demand**—The prospective buyer looks first for the three bedrooms—and an increasing number want four or five—and the mild modern design and ample land. Then he—more precisely, his wife—looks at the kitchen and the extra bath or lavatory.

"It has become a minor ambition of most parents to have a private bath," says a Florida builder.

Closet space, too, is dear to the housewife's heart. "Once you hear the woman say, 'The closets and the kitchen are a dream,' you can start writing a contract," salesmen in Phoenix report.

• **In Conflict**—There's less agreement on some other features of the 1955 house. Dining rooms, for example.

"The dining room is as old-fashioned as the bustle," one Florida builder will say. Another man in the same area insists: "The dining room never vanished—it got lost in the high costs after the war, and now it's back, but not necessarily with four walls." Many buyers are happy with an ell off the living room, set off by half-high partitions.

In New England, though, the first question is: "Will it have a full dining room?" Says a real estate promoter in Boston: "I think people are beginning to recognize the value of the dining room in helping to hold the family together as a unit."

Reports from such widely separated cities as Syracuse and Atlanta point out the value of a full dining room to men now at the junior executive level who must entertain at home.

There's a sharp division of opinion, too, about basements. Statistics show that 70% of homes across the country have them. In the Northeast, it's closer to 90%; in the Southwest, it's zero.

A Detroit builder says: "You have to go down below the frost line for the foundation anyway, and it's ridiculous not to have a full basement. With an investment of $300 to $500, you get an extra $1,000 to $5,000 worth of space."

"Basements and hardwood floors are old-hat," reports a Southwestern builder. "Besides, they're an invitation to termites."

Carports are often preferred over garages—they can be adapted by the householder to an extra bedroom, TV room, or storage space. "People don't worry about garaging their cars anyway," says a Chicago builder. "They turn them in for new ones too often."

FOR HOME BUILDERS:

Lots of Bu

The housing industry is going into its seventh fat year in a row, with buyers (above) beating a path to its door. In Chicago this week, the National Assn. of Home Builders settled on a prediction of 1.3-million starts for 1955. This would make it the second best year in history.

In 1949 the industry first topped 1-million starts. In 1950, it set the still standing record of 1,396,000 starts; since then, it has ranged narrowly between 1,091,000 in 1951 and 1,215,000 in 1954. The best prewar year was 937,000 starts in 1925.

Talk to builders individually, as BUSINESS WEEK reporters did this week, and you get the impression that the 1.3-million forecast is on the low side. Labor Dept. economists, predicting the same figure, privately concede they may be too conservative. Builders themselves are bullish about chances of a 1.4-million or 1.5-million year.

Their feeling is colored, of course, by the 91,000 starts in December—90% above the previous year.

• **Dollar Volume**—Value of new houses will be up, certainly. Buyers are upgrading their demands (page 25). Cost of materials and labor will tend to shade upward, too. Many builders are braced for new labor demands when contracts expire this spring that will add perhaps $300 to prices.

Business, Lots of Adjustments

To meet the new needs of most buyers, builders are moving into higher price ranges. The dollar figures vary, region by region, but the effect is the same. In San Francisco, prices for popular houses started last year at $14,000, this year at $16,000. In Pittsburgh, the average has gone up $1,000. In Portland, Ore., builders are pushing up from the $8,000-$12,000 range to $10,500-$20,000.

On the other hand, in the Phoenix area, you can still buy a three-bedroom, two-bath house, with several appliances, for $7,500 to $8,500. With hot competition, builders are contenting themselves with a $200-$300 margin per house.

But everywhere, builders think the upgrading of housing needs is just beginning. "People are outgrowing their stepping-stone houses," a Denver builder says. "By 1960 we'll really see people living it up in their home-buying."

• **Problem for Builders**—Aside from mild worries about labor and about materials (mostly a shortage of gypsum wallboard to replace plaster), builders see only two major problems: land and credit.

Of the two, builders in several localities say suitable land is the knottier problem. The postwar housing boom has been almost wholly in the suburbs—60% of all new private one-family houses last year were built outside the city borders. This means the open, level tracts beloved by mass developers have been pretty well filled.

"It's getting so we can't locate tracts we can afford to buy," a Portland developer complains. "We can't pay $1,300 or more for a lot and still sell at the popular $10,000 price."

The choice is either to spot-develop older residential areas, as some Los Angeles builders are doing; to tack extra land costs onto the price of the mass-produced houses and hope the buyers will still bite; or to move farther into the outskirts. This last choice is costly, too—the developer usually has to put in his own water, sewer, and gas lines, electric service, and streets.

Besides, some outlying municipalities are tightening their zoning laws and raising their fees for building permits, all with the idea of cutting down their rate of growth, particularly in school enrollment. Townships around Philadelphia, for example, have raised their minimum lot size from 3,000 sq. ft. to 5,000 sq. ft. And some New Jersey boroughs have raised their building permit fees from $3 or $5 to $100 per house.

• **Mortgage Money**—Credit doesn't seem to be a nationwide problem. Most areas report credit ample on liberal terms; a few say that mortgage money has tightened. Under last year's housing act, Veterans Administration loan guarantees for the first time exceeded Federal Housing Administration insured mortgages.

Some builders say they're worried about a dry-up of the mortgage money supply if VA and FHA interest rates are lowered.

• **Reverse Trends**—Two prominent trends of the past few years are being reversed, at least in many areas:

• Fewer appliances are being installed in houses for sale—and financing—as a package. Some builders claim VA and FHA won't write into the mortgage any appliances, even the built-in types, that won't last for the life of the home. Builders also say buyers don't want the appliance packages, since many of them have recently bought appliances that are satisfactory.

• Glass is being used with a little more discrimination. Picture windows no longer face the street, for example, in many well-designed houses. "A house is a shelter to keep the world out, not to let it in," says an Omaha architect. Glass walls can be costly, too, in either heating or cooling a house. The outdoors-indoors way of life isn't losing popularity, builders say, but windows are more likely to be double-glazed and to be placed more effectively.

$500 Fiberglas sport boat—Lone Star's Challenger—typifies this price class. It features double cockpit, is for use with high-powered outboards.

$1,000 Trojan's 18-footer sleeps two, is in effect a small cruiser. (Note that all prices are approximate; they vary according to equipment.) There is considerable choice in this price range.

1955 Motor Boat Show: The Highest Tide Yet

If the National Motor Boat Show is any yardstick, 1955 is going to bring the boating industry a bigger business than it ever dreamed possible.

All week long, New York's Kingsbridge Armory has resembled the subway at rush hour. (The pictures above were taken just before the doors opened to the public.) Several times the city Fire Dept. had to close the doors—simply because there were too many people for safety in the huge building.

This high tide at Kingsbridge bears out a strong postwar trend that shows no sign of letting up: Americans are taking to boating on lakes, rivers, and oceans in ever-increasing numbers. There are three major reasons: (1) prosperity; (2) more leisure time; (3) there's less traffic—and more pleasure—riding the waves than riding the highways.

• **Full Speed**—Figures make the current boom look even more impressive, businesswise. Here is one example:

In 1954, the public spent an estimated $235-million just on outboard boats, motors, and fuel. That's eight times what was spent in 1941, 10% over 1953. Industry surveys indicate a further increase this year to $285-million.

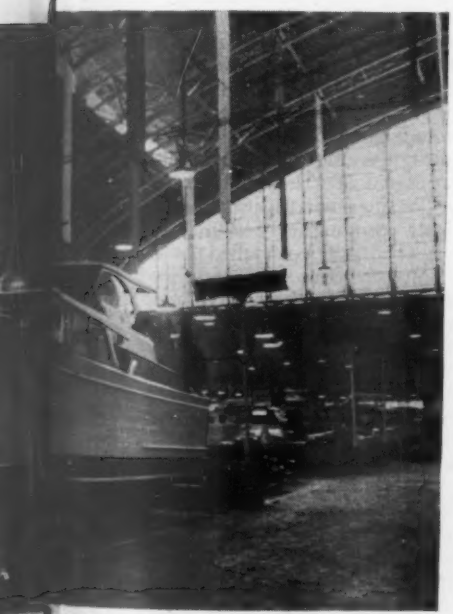
The entire industry is doing its best to ride the crest of the wave. There's now a greater variety and price-range of boats to choose from than ever before. One indication: There are 251 exhibitors at this year's Motor Boat Show as compared with 198 in 1954.

Also, a lot of banks are in the picture—some for the first time. They offer help in financing boat purchases, even in the $12,000 class.

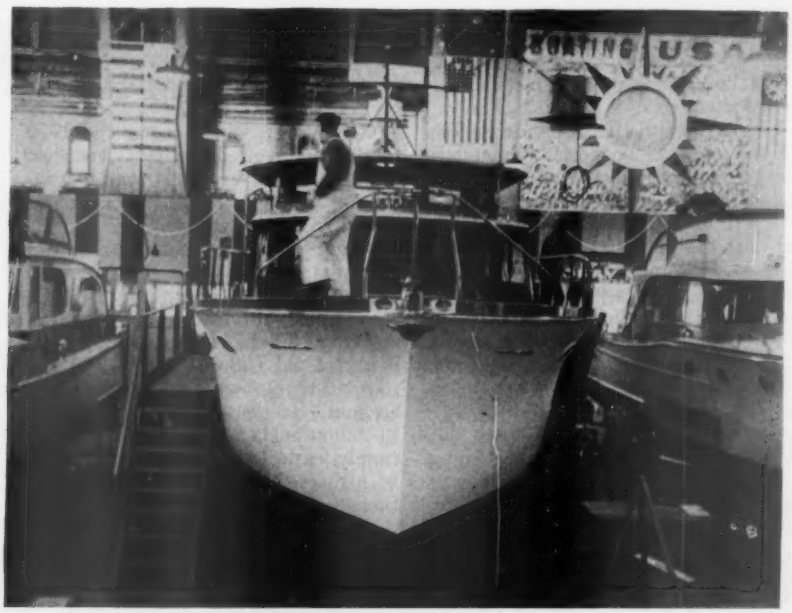
$15,500 This Owens 35-ft. cruiser has a new hull design that permits planing with only 100 hp. push. Will make

$3,500 German-built Olympia Capri has two full-length bunks, foam-rubber mattresses, fold-away dinette. Either 60 hp. or 75 hp. inboard motor. Hull is mahogany marine plywood.

$5,000 Century Coronado turned out to be hit of the show as "sports car" of boats. Can do 55 mph. Features bright hulls; tinted, wraparound windshields.



32 mph. with twin 136-hp. Flagship marine induction-gear engines. The boat has overhang- clipper bows, flush decks, enamel finishes.



$88,000 Wheeler's 51-ft. yacht is show's biggest, most expensive craft. Has two twin-bed staterooms, two tiled baths complete with glassed-in showers, water-pressure system, electric toilets. Powered with two 200 hp. diesels.

Eisenhower Gears Budget Hopes to

The President's Problem:

It's getting harder to cut spending:

In some cases the law requires higher outlays:

First year, (1953-54) he cut $6.5-billion

Second year, (1954-55) he cut $4.3-billion

Newest budget (1955-56) cuts only $1.1-billion

For Instance:

Veterans services will rise $200-million

Soil conservation $73-million

Unemployment compensation $50-million

Not to Spend Less, But to Take In

Pres. Eisenhower this week laid out a spending plan for the next fiscal year. It broke sharply with anything he has offered in the past—so sharply that it quickly became the most controversial budget message he has delivered since he took office. It raised bitter Democratic criticism. And it touched off a muted but deeply felt disquiet among conservative Republicans.

The break with the past didn't show in the over-all figures; the totals changed little from the current fiscal year. It was a real break nevertheless:

• It is the first Eisenhower spending plan to spell out—in dollars—his own positive philosophy of government for a period of uneasy peace. His other budget messages have been directed mostly at changing and dismantling what he inherited from the Democrats. This one starts afresh—a clear break from the Democratic past.

• It places his chief hope for eventual budget balance on rising revenues from a growing economy, not on cutting down the size of government.

This does not mean an end to the cutting. More is explicitly promised. But the prevailing tone of the budget message and the real meaning of a long series of recommended increases in spending are clear:

It's better for the nation to grow into a balanced budget than to cut its way down to one. In that sense, the message is a painful break with the past for many a Republican old-timer in Congress, and for the bipartisan economy bloc.

I. Bright Side, Dark Side

The budget, which covers the 1956 fiscal year, beginning July 1, was received in Congress with sharply contrasting reactions. The revenue side looked good to the legislators. The spending plan caused a quick round of protests.

For revenue, it relies chiefly on a continuing rise in business—and this seems justified beyond the fondest hopes of the Administration when it started laying out the budget last autumn. Receipts are expected to rise $1-billion higher than this fiscal year, simply because profits and incomes will be higher. No tax increases are asked, though the Treasury does not rule out the possibility later. If any, the increases will not be large.

• **Storm—**But the message's spending program blew up an immediate storm.

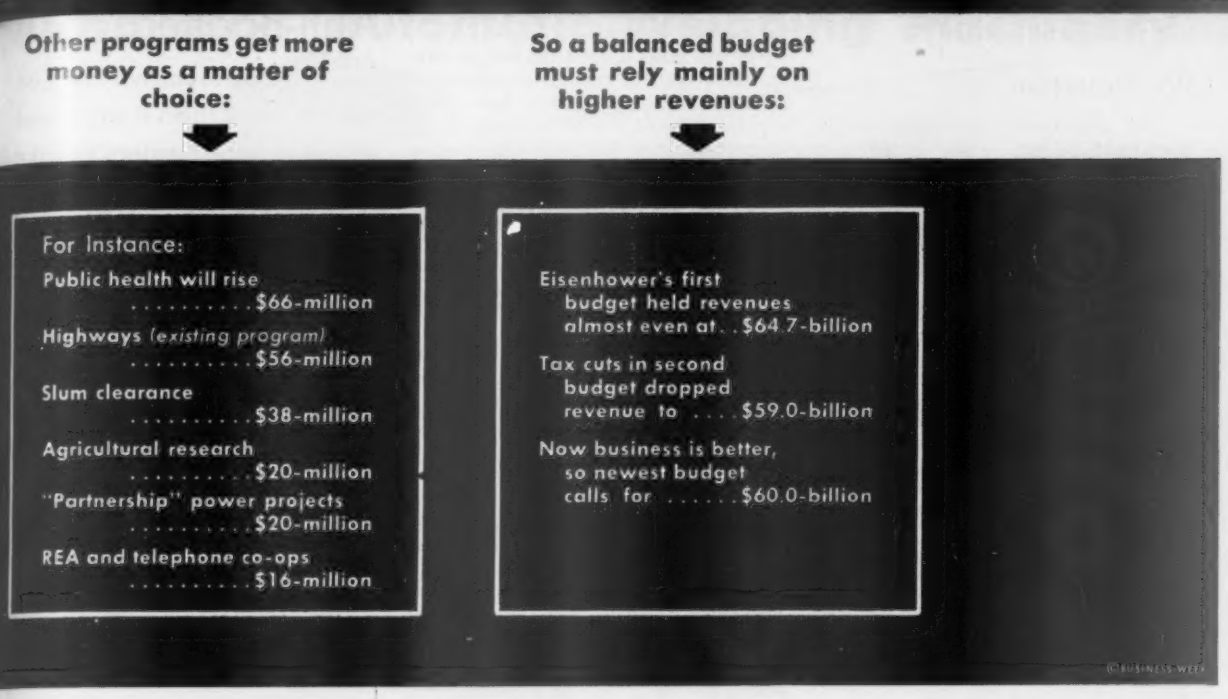
Sen. Albert Gore of Tennessee summed up the Democratic reaction thus: "The President has come face to face with the power of Congress to control the purse strings." He had in mind a recommendation to cut TVA appropriations down to the bare bones. But he spoke for all Democrats who are critical of the budget—either for spending too much or for not spending enough.

Rep. Clarence Cannon, chairman of the Appropriations Committee that will pass on Eisenhower's recommendations, called the message "deceptive" and "misleading." He particularly attacked an "unallocated reduction" in Defense Dept. spending of $1.7-billion below cost estimates as detailed by the individual services. He described the budget as being "replete with all manner of increases" where Congress had expected reductions.

Uneasiness of the Republican economy bloc cropped up in guarded comments by Rep. John Taber, chairman of the Appropriations Committee last session. He questions a $730-million pay increase asked for the military on the grounds that he does not want to foster "another round of inflation."

• **Congress Disposes—**All this highlights the real nature of the annual budget message. It is a spending plan offered by the President, subject to wide changes as Congress adopts the necessary appropriations bills.

Rise in Business


Other programs get more money as a matter of choice:
So a balanced budget must rely mainly on higher revenues:
For Instance:
Public health will rise $66-million
Highways (existing program) $56-million
Slum clearance $38-million
Agricultural research $20-million
"Partnership" power projects $20-million
REA and telephone co-ops $16-million
Eisenhower's first budget held revenues almost even at . . $64.7-billion
Tax cuts in second budget dropped revenue to $59.0-billion
Now business is better, so newest budget calls for $60.0-billion

In More

Eisenhower's first two budgets got an unusual amount of support in the Republican 83rd Congress. They came out of the legislative mill pretty much as proposed. This one is going to get rougher treatment. As a result, unanswered questions about federal spending will hang over business from now until late summer, when Congress votes the last dollar and goes home.

A budget message, of course, is more than a collection of figures. It is an expression of political philosophy, of basic attitudes toward business, and of feelings about the future of the country.

In this respect, the new Eisenhower spending plan is the most significant of any he has sent to Congress.

II. The Long Pull

It is a long-pull budget—from military spending to peacetime use of atomic power. And especially when it comes to revenue.

The rise in revenue expected in fiscal 1956 is frankly geared to an optimistic view of current trends. It depends entirely on a continuation of the present upturn in business.

It counts on a rise in corporation profits this calendar year to $38.5-billion—up $2.5-billion from the latest Treasury estimates of what corporations earned in 1954. It foresees a rise in personal income to $298.5-billion during fiscal 1956, compared to the $286.6-billion expected this fiscal year. That 4% rise is a good indication of what the Administration expects from business for the next 18 months.

• **More Coming**—But it's only the beginning, as Eisenhower sees the future.

On the way to the $500-billion economy he believes is feasible within a decade (BW—Oct.30'54,p27), he sees federal revenues rising while tax rates are gradually reduced. As a result of economic growth, he sees a balanced budget "in the near future"—but puts no date on it.

His hope for a tax cut emerges more crisply. He holds out the possibility of one next year. Thus, for the second time, the Administration would be willing to put tax reduction ahead of a balanced budget. The first time was last year, when $7-billion in cuts went into effect. Now Eisenhower and Treasury Secy. George M. Humphrey are making the same choice for fiscal 1957. If all goes well between now and next January, the budget message then will spell out tax reductions for both business and consumers—even if it should mean another deficit.

Humphrey puts it this way: The important thing is to keep moving toward a balanced budget; tax cuts along the way, to keep the economy healthy, can be a good thing even if they delay a balance. Humphrey hopes that next year he can be talking about further tax cuts and at least a smaller deficit.

III. More Red Ink

Actually, the Administration has moved a good way toward balance, despite some loss of ground caused by the drop-off in business beginning in mid-1953.

In fiscal 1953, former Pres. Truman's last year with the budget, the budget deficit was $9.4-billion. Here's the picture of Eisenhower's years:

Fiscal Year	*Spending Billions*	*Revenues Billions*	*Deficit Billions*
1954 Actual	$67.8	64.7	3.1
1955 Estimated ...	63.5	59.0	4.5
1956 Proposed	62.4	60.0	2.4

Eisenhower and Humphrey thus expect the smallest of their three deficits in the next fiscal year. And they see black ink ahead for the so-called "cash budget," the one watched most closely by economists. Unlike the administrative budget, which involves certain complex workings of accountancy, the cash budget deals purely with the actual amount of money taken in and paid out by the government.

For the present fiscal year, the Administration expects the cash budget to be $2.4-billion in the red, and therefore on the inflationary side. For fiscal 1956, it foresees a cash budget $558-million in the black, a shade on the deflationary side. This simply means the Administration expects to collect

$558-million more from the people that year than it pays out.

IV. Protection

The continuance of deficits in the traditional budget is due chiefly, of course, to heavy spending for armed strength.

Eisenhower is taking personal responsibility for the level of military spending in the new budget—$34-billion. This is just a fraction under the current year. He believes it is enough to keep the U.S. strong over the long pull, even if we have to stay heavily armed for 50 years (BW—Dec.25'54, p17). The $34-billion is a little higher than Treasury and Budget Bureau officials had hoped—but it is some $1.7-billion lower than the military services had counted on.

The "unallocated reduction" of $1.7-billion that shows in the budget message is the amount the Defense Dept.'s budget officer, W. J. McNeil, believes can be squeezed out of the services' spending schedules during 1956. In the services themselves, there's some skepticism. Officials think Defense Secy. Wilson and McNeil may well have promised more than they can deliver, and that spending is likely to wind up closer to $36-billion than to the budgeted $34-billion. This is an old battle inside the Pentagon. So far, McNeil has been right.

• **Breakdown**—The spending plan lays out the biggest sum ever spent for the Air Force in peacetime—$15.5-billion, up some $200-million from this year. The number of wings will rise from 121, expected next June, to 130 by June of 1956.

The Army will be cut from more than $10.1-billion this year to slightly less than $10-billion. The drop in effective divisions will be somewhat sharper: from 24 to 20. The Navy will take a small cut.

Though spending for the Defense Dept. as a whole is budgeted for a slight drop, appropriations—which set the limits of future spending—are moving up. Defense Secy. Wilson had hoped for a $5-billion rise. He got $2.1-billion. Officials at the Air Force, Army, and Navy level in the Pentagon think this is merely a postponement—that the balance will appear in next year's budget message, if it is not forced through by a defense-minded Congress this session.

Spending for atomic energy—a big factor in the arms picture—will remain just about where it is this year, at $2-billion. Military aid to allies is scheduled for a $450-million rise.

V. Economic Growth

Eisenhower's fundamental break with the past lies in his spending plan for the civilian economy.

He still posts a net reduction in this spending—but the cuts are concentrated in a handful of programs: farm price supports, almost a $1-billion cut; TVA appropriations, $212-million; some $400-million less to run the Post Office if Congress is willing to vote higher postal rates—which now looks doubtful.

• **Rises**—By contrast, increases in spending are spread across a broad front. Some of those called for in present laws (chart) Eisenhower still hopes to reduce. He will appoint a commission, for example, to study the rise inherent in the military pension system, as World War I veterans enter the over-65 bracket in increasing numbers.

But increased spending for a long list of social and economic purposes is not forced by existing laws. These items are in the budget because Eisenhower chose to put them there. He calls them "areas important to human well-being." All of them are designed either to bolster public welfare—for instance, health and slum clearance plans—or to pave the way for economic expansion—shipbuilding and agricultural research.

Individually, the price tags run relatively small. But as a group, the increases Eisenhower has in mind for fiscal 1956 come to well over half a billion dollars. And these touch only the spending programs that lie within the budget.

• **Outside the Budget**—More important sums are in mind for special financing—the highway program, notably (BW—Nov.20'54,p26), which would draw $2.5-billion a year for 10 years from the federal government. None of this is to go through the budget, if the Administration's plans are adopted for a highway agency empowered to issue its own bonds. A school construction program, approved for the first time earlier this month, may be partially financed the same way.

And when Eisenhower strips the TVA appropriation down to a mere $2-million, as he does in the 1956 budget message, he recommends that the agency issue its own bonds for future power development. This would put the issue of TVA expansion outside the budget, but would not necessarily halt it.

• **Opposition**—As the Congressional session rolls along, the Eisenhower concept of how to assure economic growth is sure to encounter mounting opposition. The bipartisan economy bloc—which for a decade has held down spending except that for the military—will give the President a stronger dose of Congressional opposition than anything he has been used to on appropriation bills.

Anti-Bootleg . . .

. . . auto move by GM means more than it says; real aim is to spur dealers to take more cars, sell harder.

In its drive to better last year's sales, General Motors this week gave its dealers an indirect nudge toward more aggressive selling. It told the dealers in effect: If you are getting more cars than you think you can sell, don't bootleg them, sell them back to us.

The immediate reaction was that GM's offer indicated a large-scale revival of bootlegging—the sale of new cars to used car dealers at slightly above wholesale price—as a result of the auto industry's current record production level (BW—Jan.15'55,p25). The practice had slacked off as dealers' stocks declined late in 1954. But, though some 1955 models have shown up on used car lots, GM and other factory people say there is no new surge of bootlegging.

GM's new policy obviously might discourage the practice, but its real purpose is more subtle.

• **Spur**—GM intends to keep production at its present high level as long as demand justifies, Pres. Harlow H. Curtice said at his annual Motorama news conference this week in New York. One way to keep demand high is to give dealers every encouragement to be optimistic in ordering cars. If a dealer knows he will not be stuck with a large inventory, he might voluntarily raise his sales goal.

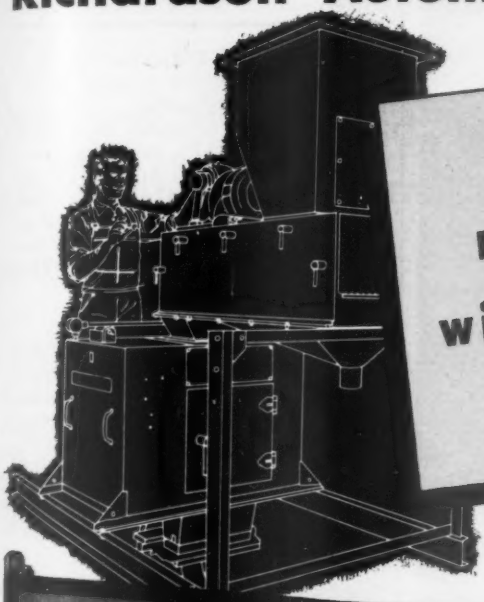
In other words, Curtice thinks GM cars will sell if dealers get them into their showrooms. And he feels the overwhelming majority of GM dealers don't need the new spur. He said he doesn't know how many dealers will take up the offer, but "I hope it will be few." He insisted that up until now demand for the 1955 models is still outrunning production.

• **Weapons**—The policy itself is not a new idea with GM. Last April Curtice proposed to the Justice Dept. that GM be permitted to include a compulsory "sellback" proviso in its franchise agreements with dealers.

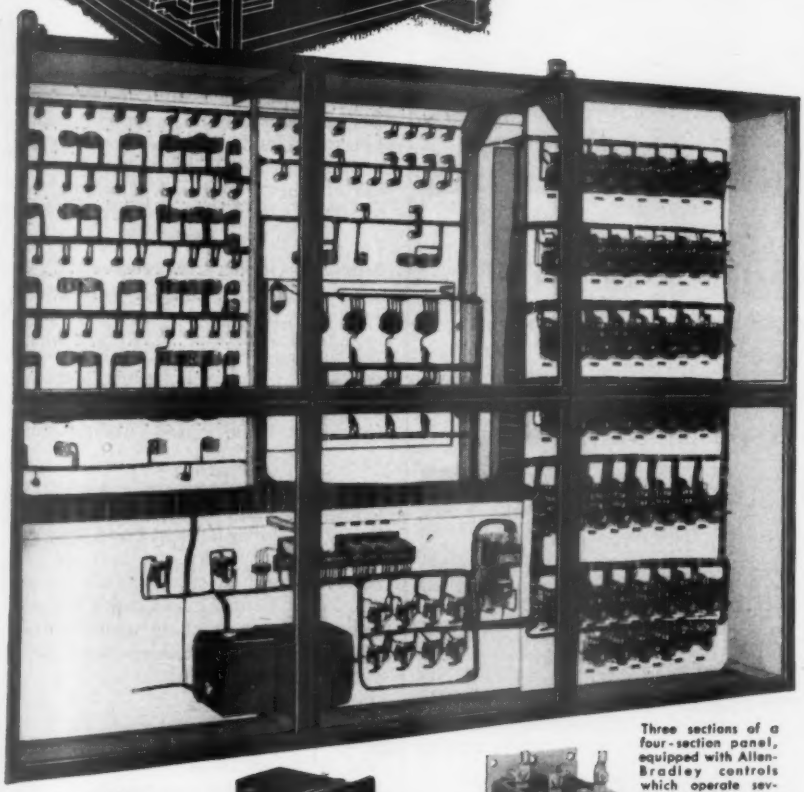
As a weapon against bootlegging, the optional sell-back is not air-tight. As dealers' spokesmen point out, a merchant might feel that selling cars back to the company would be a black mark against him.

Other auto companies are seeking different ways to solve the bootlegging problem. One is toying with the idea of making the warranty conditional on arrangements that could be made by a franchised dealer.

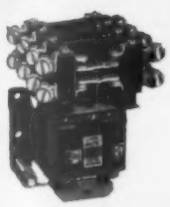
Richardson Automatic Weighing Machinery



FACTORY EQUIPPED with ALLEN-BRADLEY Solenoid Control



Three sections of a four-section panel, equipped with Allen-Bradley controls which operate several units of weighing machinery, one unit shown at top.



Bulletin 700 Universal Relay.

Oiltight Push Button with Cylinder Lock.

Oiltight "Hand-off-auto" Selector Switch.

Bulletin 202, Size 2, Single Pole, Open Type Contactor.

This combination of Allen-Bradley control and Richardson Weighing Machinery permits selective automatic batch weighing and accurate proportioning of materials for the manufacture of refractory brick.

Why are Allen-Bradley solenoid controls used? Because they are so dependable — a feature of utmost importance where "production machinery" is concerned. The one moving part is good for millions of trouble free operations. Allen-Bradley double break, silver alloy contacts require no cleaning, filing, or dressing. This saves labor and lengthens contact life. Furthermore, reliable overload relays are on constant duty to protect the motor, man, and machine.

Specify Allen-Bradley control for your motorized machinery.

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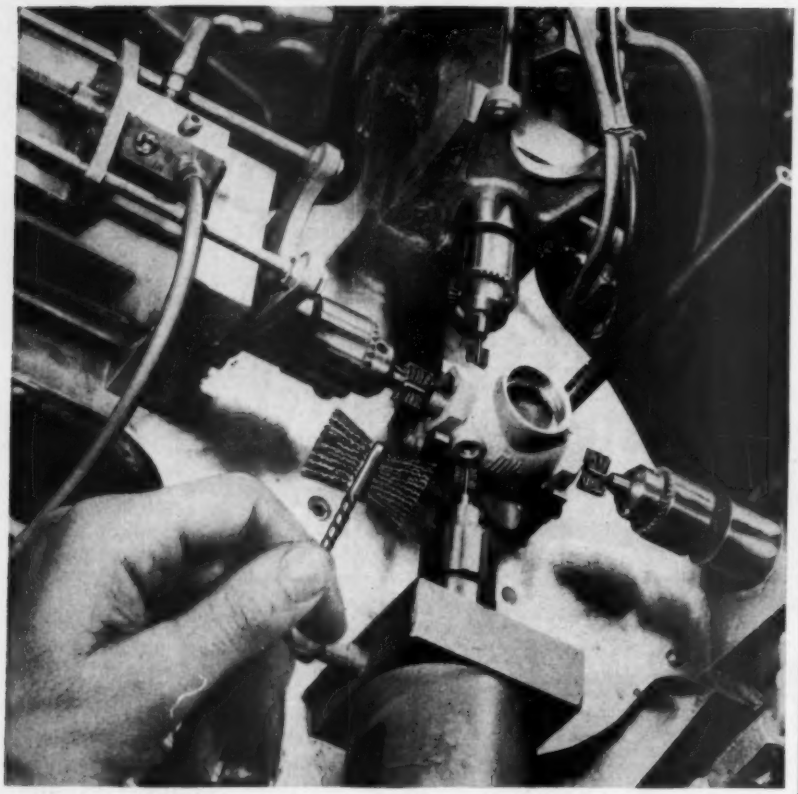
ALLEN-BRADLEY

SOLENOID MOTOR CONTROL

QUALITY

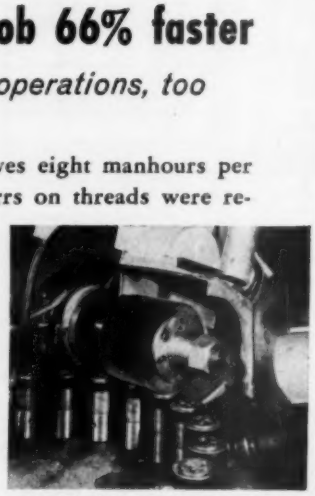


Production idea does job 66% faster

An OBA can speed your operations, too

HERE, Osborn Power Brushing saves eight manhours per 1000 parts. Before brushing, burrs on threads were removed from each hole by hand. Now, four holes are brushed at one time . . . 66 per cent faster than before. Setup is simple, results are uniform, production steady, cost is less.

Substantial savings can be made on many types of production with Osborn Power Brushing. An **OBA**, **O**sborn **B**rushing **A**nalysis, will show you how. Call or write *The Osborn Manufacturing Company, Dept. A-52, 5401 Hamilton Avenue, Cleveland 14, Ohio.*



PRODUCTION UP, COSTS DOWN. *Osborn Economy® Brushes finish both sides of brass discs at a 15,000-per-day rate. Another case of power brushing doing a faster, more thorough job than a former hand method.*

Osborn Brushes

OSBORN BRUSHING METHODS • POWER, PAINT AND MAINTENANCE BRUSHES
BRUSHING MACHINES • FOUNDRY MOLDING MACHINES

BUSINESS BRIEFS

General Motors Corp. announced a new $2-million-a-year program of unrestricted aid to education. Each year, GM will award four-year scholarships to 350 students, plus annual grants in aid of $500 to $800 for each of the students, to be spread among 306 colleges. Last year, GM's aid-to-education program cost $2.5-million; the new plan will boost this to an annual $4.5-million by the end of four years.

•

Farm land values in the U.S. climbed a modest 1% in the period from July 1 to Nov. 1, the Agriculture Dept. estimates. The department set average value per acre at 124% of the 1947-1949 base, and predicted it would hold firm during the year. Rising land prices in the Corn Belt accounted largely for the gain.

•

Capturing the New York Central cost the Robert R. Young controlled Alleghany Corp. over $1-million, the holding company's annual report reveals. The report said this heavy spending for wooing proxies had been done "on behalf of others," and that Alleghany "expected" to be reimbursed this year.

•

Anaconda Copper's invasion of the aluminum field will set up another beachhead when the company's wholly owned subsidiary, American Brass Co., builds an integrated aluminum mill. The plant, on the outskirts of Terre Haute, is expected to cost $25-million and provide about 1,000 jobs.

•

Stockholder eyebrows are rising skeptically over the planned sale of 631,715 shares of Niles-Bement-Pond treasury stock to Equity Corp., for cash and Bell Aircraft common stock. Two groups, one led by Penn-Texas Corp.'s Leopold Silberstein, are cranking up to protest, charging that shareholders were never consulted on the deal.

•

Corporate courtship: Sunray Oil Corp. and Mid-Continent Petroleum Corp. were still discussing a merger at midweek. In 1953, Sunray had net earnings of $27.5-million, Mid-Continent of $14.4-million.

•

More merger: The Bronx County Trust Co. is to be bought by the Bank of the Manhattan Co., which in turn is scheduled to merge with Chase National (page 56). If stockholders approve the deal, holders of the Bronx Bank's 30,000 shares will receive "not less than $200 a share."

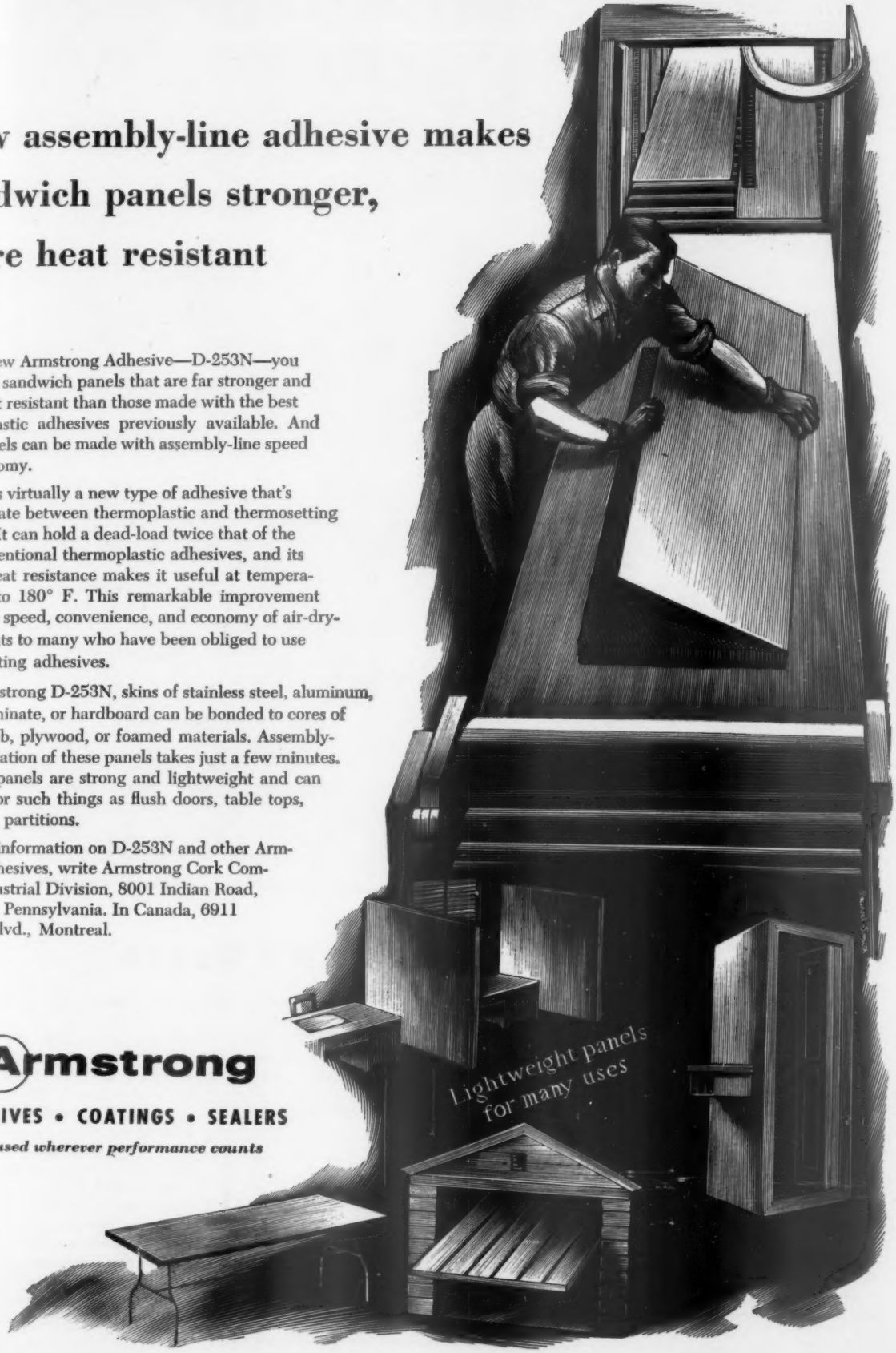
New assembly-line adhesive makes sandwich panels stronger, more heat resistant

With a new Armstrong Adhesive—D-253N—you can make sandwich panels that are far stronger and more heat resistant than those made with the best thermoplastic adhesives previously available. And these panels can be made with assembly-line speed and economy.

D-253N is virtually a new type of adhesive that's intermediate between thermoplastic and thermosetting cements. It can hold a dead-load twice that of the best conventional thermoplastic adhesives, and its greater heat resistance makes it useful at temperatures up to 180° F. This remarkable improvement brings the speed, convenience, and economy of air-drying cements to many who have been obliged to use thermosetting adhesives.

With Armstrong D-253N, skins of stainless steel, aluminum, plastic laminate, or hardboard can be bonded to cores of honeycomb, plywood, or foamed materials. Assembly-line fabrication of these panels takes just a few minutes. Finished panels are strong and lightweight and can be used for such things as flush doors, table tops, and office partitions.

For more information on D-253N and other Armstrong Adhesives, write Armstrong Cork Company, Industrial Division, 8001 Indian Road, Lancaster, Pennsylvania. In Canada, 6911 Decarie Blvd., Montreal.



Armstrong

ADHESIVES • COATINGS • SEALERS

. . . used wherever performance counts

DANGER! FUMES AND DUSTS

When a manufacturer suspects that fumes and dusts may endanger the health of his employees — what is the first step to take? There's no question when he has placed his compensation insurance with Liberty Mutual.

Here's a typical story of such a policyholder. In making molded rubber hose, a covering of lead is used as a sheath in the vulcanizing process. This creates two possible danger spots: one where the lead is melted; another at the stripping machine. Workers close by might be exposed to air containing harmful amounts of fumes or dusts.

This manufacturer does not have to use guesswork on this problem. He works closely with Liberty Mutual engineers and industrial hygienists to be sure that the working environment is in no way harmful. An Industrial Medicine program keeps watch of the workers themselves.

An effective exhaust system has been installed. Air samples are tested periodically in Liberty's laboratories. The plant physician checks workers at regular intervals. These are control measures from the background of Liberty Mutual's broad experience in this field — controls checked carefully by Liberty Mutual engineering specialists.

All this is a brief glimpse of *Humanics* — the Liberty Mutual program that helps manufacturers make money. Not only does Humanics help lower insurance costs — it also helps eliminate the uninsurable costs of accidents in industry. For information call the nearest Liberty Mutual office or write to us at 175 Berkeley St., Boston 17, Mass.

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We work to keep you safe

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PAGE

WASHINGTON OUTLOOK

WASHINGTON
BUREAU
JAN. 22, 1955

Take a fresh look at Eisenhower, with his 1956 budget plans (page 30) in mind. The policies outlined in the budget, in the economic report, and in the other messages round out the business and political considerations that will guide Washington for the next two years.

And they may have longer significance than that. Eisenhower is an odds-on bet to run for reelection (BW—Jan.15'55,p37).

Policy is shifting. The President's advisers play the shift down. But the messages show it, and you will want to take it into account.

—•—

Spending is an example. Eisenhower says his approach to budget-making is unchanged: "a liberal attitude toward the welfare of the people and a conservative approach to the use of their money." That's the statement in the budget message. But look at some facts.

The big push to cut spending is over. Eisenhower's fiscal-1956 plans call for an outlay of $62.4-billion—well below Truman's $77.9-billion two years ago. That's a whopping reduction, but—

There's still a deficit. It's figured at $2.4-billion. That's small—a little more than half this year's $4.5-billion—but it's there.

And federal spending is about to turn up again, without the excuse of war. Budget totals don't show this. But Eisenhower's plans do.

—•—

Highways are an example. Eisenhower's road-building program calls for an extra $2.5-billion of federal money yearly for the next 10 years. This is to be special borrowing, outside the deficit and debt.

School construction is another. You won't get the details on this until next month. Outside-the-debt financing may be involved here, too.

Then there are such projects as TVA. The budget includes no money for TVA's growth. The plan is for it to sell its own bonds—operate outside the budget.

Thus, federal spending is understated. If all the projects planned were included in the budget, the spending total would exceed this year's, and the deficit would approach $5-billion, maybe more.

—•—

Eisenhower's philosophy? You have to realize that he's been riding on the horns of a tough political dilemma. His policy, as stated before, is to be liberal with people and conservative with their money. So far it's been possible to make big savings in military expenditures. But now these have been cut to what officials call the bone. At the same time, the pressures have been building up for such public works as roads and schools. They are socially desirable and politically important.

Has the balanced budget goal been abandoned? No, it's still there. It's the ideas on how to achieve it that have changed. Now that further budget cuts are difficult, the Administration will rely on an expanding economy to produce enough more revenue to wipe out the deficits. It's not a new idea. Other deficit-pestered Administrations have voiced it.

—•—

Some easy-to-see business implications:

Government as a customer for goods and services will remain very big. Consider 1956 fiscal demands—$62.4-billion, as a minimum, long-term.

The climate for private business expansion will not be neglected. To

keep times good, and thus encourage growth, government will up its spending for public works and keep credit easy, especially for home building.

Tax rates will go down, if Eisenhower's economic planning works. The idea is that growth will supply the budget-balancing revenue needed to put Washington operations in the black and leave room for a tax cut, probably next year, just ahead of the Presidential elections.

—•—

How do the Democrats feel about this? They don't like it at all. The party has been very sensitive to Republican charges of money waste under Roosevelt and Truman, and it reads Eisenhower's 1952 campaign as a promise to balance the budget. There will be a hot political fight on the spending Eisenhower has scheduled outside his budget.

—•—

Virginia's Sen. Byrd will tee off on the highway program. He's set to take the floor just as soon as the plan is detailed, Jan. 27.

The debt ceiling is involved. Byrd agreed to a temporary increase last year—$281-billion until June 30, when it drops to $275-billion. He still feels that Eisenhower should live within the ceiling and that all government spending should be counted under it.

—•—

The public power bloc is getting set for a real fight. It doesn't like the idea of the government retreating from this field.

That's what's behind the new public works subcommittee being set up within the House Appropriations Committee. It will handle new money for Southeastern Power, Southwestern Power, Bonneville, TVA, etc.

One aim is to kill the Dixon-Yates contract. The plan is simple: Deny appropriations to carry out this arrangement. That will bring on a floor fight to put the money into the appropriation bill.

—•—

Politics will be played with tax policy. The Democrats will vote to keep the 52% corporate rate and extend excises on autos, gas, liquor, and the like. But they also want to show voters the party is on their side.

Watch for a move to up personal exemptions, raise them from $600 to $700. This is a change of position. Democrats had been content to let this issue go over to 1956, until Eisenhower announced his hopes for another cut then.

—•—

Eisenhower wants the states to accept more responsibility. It's a theme that runs through his 124-page economic report, heavy with public works.

He wants them to raise ceilings on borrowing—refers to "outmoded" tax and debt limits as standing in way of needed roads, schools, hospitals, and water systems. In the case of schools, he approves state loans to school districts, and suggests a lease-purchase program, under which schools could be built without exceeding debt limits.

He asks states to come to the aid of big cities with laws allowing area-wide planning for roads, schools, sanitation, and transportation.

—•—

The big fact that's hard to escape is this: Eisenhower wants more spending. And if states and local governments don't kick through with enough to encourage the economic growth Washington considers necessary, then Washington will take on the job.

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THIS IS NATIONAL STEEL

How a Miracle Became a Kitchen Commonplace

Most of us can still remember when ice was a crop grown by nature in the familiar ice-pond. Today, man-made ice and automatically controlled low temperatures are taken for granted. Your modern refrigerator is a familiar example of the everyday miracles made possible by steel.

In Grandma's day food preservation was a sometime thing. Salting, pickling, drying and smoking were effective after a fashion, but foods kept fresh and tasty in the hot summer would have been considered a miracle.

Of course, ice was fairly efficient for keeping foods longer. But ice was a product of nature. It was harvested by hand and stored in sawdust throughout the year. In the summer it was scarce and costly. Mechanical refrigeration was still a dream of the future.

The "Ice Man" Arrives

However, the growth of cities and our changing pattern of living made food preservation an ever more pressing problem. And persistent attempts were continually being made to find a cheap and dependable way to manufacture ice.

In 1834 Jacob Perkins had patented the first practical ice-making machine. Large and cumbersome as it was, it proved quite successful in breweries and meat packing plants. And by 1880 nearly three thousand patents in the United States alone had been granted for ideas on refrigeration systems.

In the closing years of the nineteenth century, ice-making plants became a familiar sight in cities and towns, and every modern home boasted an "icebox." This was certainly progress.

But there were drawbacks.

The icebox could hold only a limited quantity of food—most of the space was taken up by the large block of ice. The ice melted. And that meant a drip pan. And that meant, more often than not, ice water all over the kitchen floor.

Modern Methods Demand Modern Materials

The idea of a *home* refrigerator—a machine to make low temperatures—developed quite slowly. The first ones were crude and costly. They were really just small ice-making plants housed in the old-fashioned wooden icebox. A better material was needed. A material that could be used in mass-production manufacturing. A strong, rugged material that costs little. That material, naturally, was steel.

So the steel home refrigerator came into being. And it has progressed tremendously in efficiency, convenience, economy and appearance. The refrigerator of the early 1920's, in the coin of the time, cost about six times the price of today's handsome models.

Why this better product today—at such low cost?

It Takes Steel to Make Ice

There are many reasons, of course. But steel—America's great bargain metal—has played an important part.

And it has taken many kinds of steel. Wide, flat sheets with the ductility to shape the case's curves and corners. Strain-free sheets for doors. High-strength strip and sheets for structural members. Wear-resisting steel for moving parts. Special steels for hardware and trim. And, always, with steel's rugged durability came the fine quality surface that is the base for the bright, clean finishes. Today, eight out of ten homes have refrigerators—a mass production miracle impossible without modern steels.

National Steel a Leading Producer

Of course, National Steel does not make refrigerators, but since the beginning, National has been one of the leading producers of the types of steel used in the manufacture of refrigerators and many other home appliances. National research and production men have worked hand in hand with refrigerator manufacturers to provide the precise kinds of steel needed for continual progress. And this progress means not only miracles accepted as commonplace today, but also a steady flow of new and even better products in the future.

This is steel and this is National Steel—one of America's foremost producers of steel.

NATIONAL STEEL CORPORATION
GRANT BUILDING PITTSBURGH, PA.

It takes steel—and lots of it—to produce nearly 4,000,000 refrigerators each year. This cold-rolled sheet will be transformed into refrigerator doors.

Only steel will do for handsome, yet rugged, refrigerator doors. This giant press, with a pressure of 7500 pounds, forms the smooth, rounded surfaces.

The smart finishes on today's refrigerators are possible because of the fine quality surface provided by *steel*—America's great bargain metal.

Here, mass-production miracles are performed—over 2500 handsome refrigerators every day. *Steel* means more products, *better* products—at a lower cost.

NATIONAL STEEL

SEVEN GREAT DIVISIONS
WELDED INTO ONE COMPLETE
STEEL-MAKING STRUCTURE

Great Lakes Steel Corporation • Weirton Steel Company • National Steel Products Co. • Hanna Iron Ore Co. • The Hanna Furnace Corporation • Stran-Steel Division • National Mines Corporation

WHISKEY BRANDS: The 1954 Box Score

Seagrams' over-all whiskey volume off for the first time

Old Crow—the real comer

Rank	Brand Name	Distiller	Type	Thousands of Cases Sold 1954	1953	% Change
1	Seagram's 7 Crown	Seagrams	Blend	7,250	8,200*	– 11.6%
2	Calvert Res.	Seagrams	Blend	2,950	3,350	– 11.9%
3	Schenley Res.	Schenley	Blend	2,800	2,750*	+ 1.8%
4	Imperial	Hiram Walker	Blend	2,725	2,750*	– 0.9%
5	Corby's	Hiram Walker	Blend	1,750	1,850*	– 5.4%
6	Seagram's V.O.	Seagrams	Canadian	1,450	1,450	–
7	Canadian Club	Hiram Walker	Canadian	1,400	1,400*	–
8X	Early Times	Brown-Forman	Straight	1,250	1,200	+ 4.2%
9X	Old Crow	National	Straight	1,250	350	+257.1%
10	P.M.	National	Blend	1,100	1,240	– 11.3%
11	Carstairs	Seagrams	Blend	1,050	1,175	– 10.6%
12	Four Roses	Seagrams	Blend	1,025	1,140	– 10.1%
13	Old Stagg	Schenley	Straight	900	950	– 5.3%
14	Paul Jones	Seagrams	Blend	875	975	– 10.3%
15	Old Sunny Brook	National	Straight	850	800	+ 6.3%
16	Fleischmann's Pfd.	Fleischmann	Blend	825	750*	+ 10.0%
17	J. W. Dant	Schenley	Bond	725	600	+ 20.8%
18	Jim Beam	James B. Beam	Straight	715	550	+ 30.0%
19	Echo Spring	Schenley	Straight	660	630*	+ 4.8%
20	Ancient Age	Schenley	Straight	655	260	+151.9%

X—Approximate Tie *Revised

Seven straights and a bonded on this year's list

Over-all Shifts in Liquor Consumption

WHISKEY

% of Total Liquor Consumption

Type	1954 (Est.)	1953	1949
Blends	42.5%	46.7%	66.2%
Straights	21.2%	19.2%	8.7%
Bonds	6.4%	6.7%	5.4%
Scotch	5.7%	5.5%	4.4%
Canadian	4.0%	4.4%	2.7%
Other Whiskey	0.1%	0.1%	0.4%
TOTAL WHISKEY	79.9%	82.6%	87.8%

The blends are still losing out

OTHER LIQUORS

% of Total Liquor Consumption

Type	1954 (Est.)	1953	1949
Gin	11.6%	9.1%	7.1%
Cordials	3.0%	3.5%	2.2%
Brandy	1.9%	1.9%	1.3%
Vodka	2.0%	1.4%	0.0%
Rum	1.5%	1.4%	1.3%
Other Liquors	0.1%	0.1%	0.3%
TOTAL LIQUOR	20.1%	17.4%	12.2%

©BUSINESS WEEK

The Trend to Straights Quickens

For several years now, Distillers Corp.-Seagrams Ltd., the giant among liquor distillers, has performed a balancing act that has intrigued the rest of the industry. Seagrams does the vast bulk of its whiskey business in blends—and blends have been slipping. Yet somehow, thanks to the strength of its brands and to the heavy promotion Seagrams throws into them, the company has kept increasing its sales while the industry's blend sales as a whole kept slipping.

Last year the facts of life came home to Seagrams. As the table above shows, its over-all sale of liquor—distilled and distributed by subsidiary Joseph E. Seagram & Sons—has turned down.

What happened to Seagrams provides the key to what's happening to the liquor industry as a whole. Like the cigarette industry, total sales of the distilled spirits industry have been faltering. The reasons back of liquor's troubles are different, however, from those afflicting cigarettes. The distillers' difficulties seem to stem mainly from the

gains made by the bootleggers and from the high federal excise tax.

Due chiefly to these twin problems, the sales of the legal whiskey distilleries were down 6.2% last year from the year before. The 1952 turn-up in sales failed to hold (BW—Jan.9'54,p42).

The Blends Took a Beating

The drop for the blends was far worse. It came to about 12%. From the table, it is obvious that the top-selling brands took a beating. Of the nine brands of all types of whiskies that suffered a setback, eight were blends.

Meanwhile, the over-all share of the whiskey market held by the blends dropped another notch, from 46.7% to 42.5%.

The Straights Climbed

The straights continued their climb of the past few years. This situation led Lawrence Fertig, head of Lawrence Fertig & Co.—which handles the advertising of National Distillers Products Corp.—to remark last week that if these gains continue apace, straights and bonds will actually outsell blends by 1954. Fertig made his prediction at a sales meeting held by National Distillers.

His point is that on the whole whiskey buyers have traded up. They aren't drinking more whiskey, but they are drinking better whiskey.

What Happened to Seagrams

Up until last year, Seagrams had been able to make up for the decline in over-all blends business by taking the business away from other blends. Seagrams still sees the struggle in terms of a battle of the brands rather than as a battle of types of whiskey.

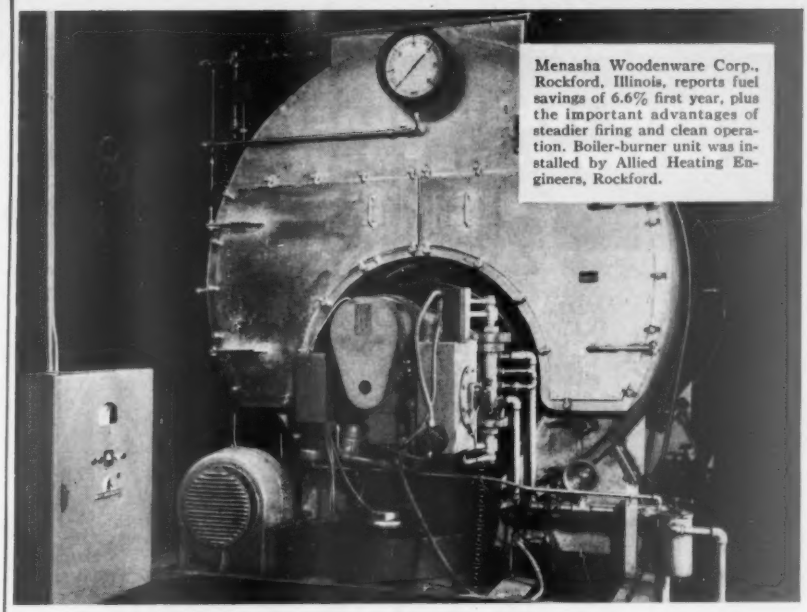
The industry thinks the facts belie Seagrams' position. Regional preferences in taste seem to be making themselves felt again. The East still sticks to blends. The straights have been making their biggest strides in the South and West—where people always liked their bourbon and liked it straight.

How National Did It

The big coup of the year belongs firmly to National Distillers, which ran Old Crow from almost nowhere to vie for first place among straights with Brown-Forman's Early Times (BW—Sep.25'53,p122). At the same time, National's other brands did very well, too. The basic reason for National's success seems to be its willingness to capitalize on the trends in regional taste.

Here's National's strategy:

It takes a brand name and puts it up in one market as a straight bourbon, in another as a blend, in still another as



Menasha Woodenware Corp., Rockford, Illinois, reports fuel savings of 6.6% first year, plus the important advantages of steadier firing and clean operation. Boiler-burner unit was installed by Allied Heating Engineers, Rockford.

Modernize your boiler room in one easy step

with this Iron Fireman package firing system

Much more than a conventional oil or gas burner. The Iron Fireman package firing unit is a *complete combustion system.* The whole system is assembled, wired, and tested at the factory and can be attached to your present boiler like any conversion burner, with the enormous advantage of *thorough factory engineering as a complete unit.*

No divided responsibility. Factory engineering eliminates both the expense and the divided responsibility of local assembly, and makes possible large fuel and operating savings.

Compact, enclosed control panel contains complete set of electrical and electronic instruments, factory installed and checked. Fuel control system includes all necessary equipment, such as oil heaters or pressure regulators. Forced draft air supply is built-in. Firing unit may be for either gas or oil, or gas-oil combination, which can be switched from one fuel to the other at a moment's notice.

Buy boiler and burner as single integrated unit. World-famous boiler builders have engineered special boilers for use with the Iron Fireman package unit. Combined boiler-burner units are available, ready to operate. Can be moved in intact, without special brickwork or setting. For further information, mail coupon.

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IRON FIREMAN MANUFACTURING CO.
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Please send complete information on the Iron Fireman *package* burner, for oil, gas, and dual-fuel firing.

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Address_____

City_____ State_____

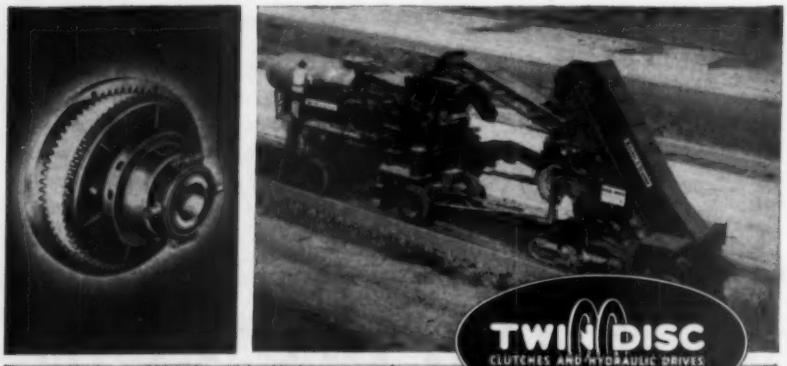
from cobblestones to super-highways

Only a few generations ago, road-building was strictly a hand-labor affair . . . excavating, filling, tamping . . . little different from the Roman methods 2,000 years before.

Today, an endless ribbon of great thoroughfares streams out from specialized road-building equipment—manned by small crews of skilled operators—driven by modern horsepower put to work through *modern power linkage.*

The power linkage requirements of road-building equipment are *exacting, widely varied.* That's why more manufacturers of this type equipment are *standardizing on Twin Disc Friction and Fluid Drives* . . . for Twin Disc is the *pioneer in power linkage development,* and offers the most *complete* line of Industrial Friction and Fluid Drives *available today.*

Typical modern road-building equipment: a Barber-Greene Travel Plant, with a B-G Bucket Loader and Mixer working through Twin Disc Heavy-Duty CL Clutches. Model CL is available in sizes 5.5" to 11.5"; capacities 1.5 to 19.5 hp per 100 rpm.



TWIN DISC

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

Branches or Sales Engineering Offices: Cleveland • Dallas • Detroit • Los Angeles • Newark • New Orleans • Seattle • Tulsa

a bond. It does this with Old Sunny Brook, Hill & Hill, Bond & Lillard, Old Hermitage. Its P.M. blend appears in the South and West as a straight bourbon.

It also applied the policy last fall to Old Crow, which was once only a bond and now also is sold both as a straight and as a bond.

There are several obvious advantages to National's strategy. Traditionally, whiskey distillers have appealed to local tastes by carefully keeping the old local favorites going. Thus, Schenley has all told some 100 labels. National, on the other hand, by bundling different liquors under one label, can get all the advantages inherent in concentrated advertising funds pushing one brand.

The Spread Narrowed

There is another interesting comparison between the liquor and cigarette industries. As in the case of cigarette brands (BW—Jan.8'55,p59), there is a narrowing gap between the top-selling brands in whiskey and the second-rankers.

The gap between the No. 1 and the 20th place brands last year was 6.6-million cases, as against 7.9-million in 1933. More brands than before sell at a rate of over 600,000 cases.

Other Liquors Cut In

Sales of domestic whiskey are being hurt by the gains chalked up by other liquors. Two contrary trends appear to be at work: Well-heeled customers are upgrading their drinking habits by buying Scotch; the less-well-heeled, who feel the effects of the increased excise taxes, are buying cheaper imported brandies and domestic vodka.

Bootlegging: Worse Than Ever

Illicit liquor production has reached new peaks. According to liquor consultant Benjamin W. Corrado, the total amount of bootlegged liquor sold last year probably equaled about a quarter of the legal sales (about 190-million gal. last year).

Competition—Tougher

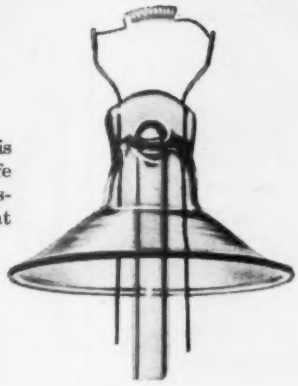
The coming year is going to be a tough one competitively. The liquor industry looks for a major power play from Seagrams to protect the failing position of its volume blends. Schenley Industries, Inc., is meanwhile becoming more aggressive, as shown by its recent acquisition of Park & Tilford Distillers Corp.

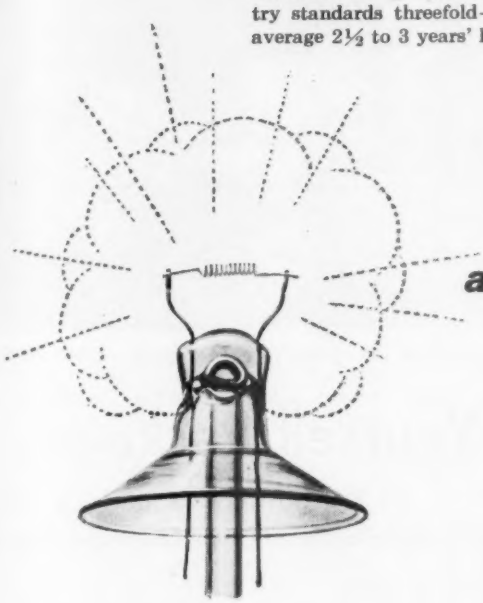
This may set the pace for a new round of acquisitions and mergers in the liquor industry. There is a good chance that the big companies may buy up some of the smaller, profitable independent distillers that have been able to forge ahead with their straights and bonds.

Backing up the famous SYLVANIA money-back offer...

a full measure of coating...

Every Sylvania fluorescent filament receives this precise amount of Sylvania's patented long-life cathode coating—the coating that raised industry standards threefold—gave you lamps that average 2½ to 3 years' life.





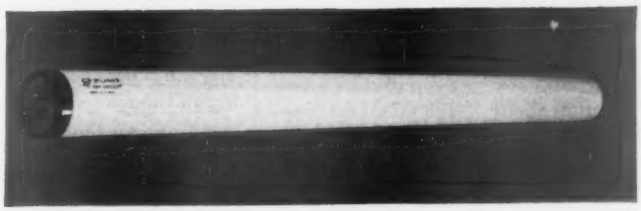
a stream of air...

Now—to give you more for your lighting dollar—Sylvania carefully removes the excess coating and spreads it out in a smooth, uniform film. A controlled stream of air does it—leaves a uniform coating that won't age irregularly—won't flake off before its time.

...to bring you Sylvania's bonus of light

Sylvania's never-ending stream of improvements in fluorescent lamps is unequaled. That is why Sylvania can offer you a signed money-back offer of better results than any other fluorescent lamp. Thousands of users have switched to Sylvania—taking advantage of this famous money-back offer to prove for themselves that Sylvania lamps are better.

Check the uniformity of performance and appearance, the maintained brightness and life of Sylvania lamps against those you are now using. If, in your opinion, they do not outperform your present lamps, send them back with your certificate, and Sylvania will refund the full purchase price. Order a trial lot from your Sylvania supplier today.



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Keep your eye on SYLVANIA
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"People often are hoggish about paper towels."

WITHOUT realizing it they'll use from two to four single fold towels just for drying.

— wasting as much as 40 inches of paper toweling.

But you can control this waste.

With savings up to 40%!

How?

With WESTROLL TOWELS in West Micromatic Cabinets.*

PEOPLE quickly unroll as little or as much as they want. But without realizing it they take less. Averaging 17 inches of soft WESTROLL.

Saves janitors' time, too.

— one filling of the tamper-proof cabinet equals four of a single fold towel dispenser.

— there's less litter to clean up.

And washrooms are cleaner, neater.

LET a West representative tell you more about WESTROLL economies. Or send for our free folder.

**Cabinets are loaned.*

OLDEST AND LARGEST COMPANY OF ITS KIND IN THE WORLD

WEST DISINFECTING Company

Dept. BW

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☐ I'd like a FREE copy of your folder on cutting towel costs with WESTROLL.

☐ I'd like to have a WEST representative telephone me for an appointment.

Name_____

Position_____

(Mail this coupon with your letterhead.)

CUSTOMER studies the pattern that he will transfer to wood to guide his desk-making.

New Do-It-Yourself Package

Mark Lumber Co. of Pittsburgh has tied up with Kaufmann's department store to merchandise woodworking patterns—and wood.

The do-it-yourself customer in the picture above is picking out a woodworking pattern for a lumber kit he has just bought at Kaufmann's department store in Pittsburgh. The lumber comes from Mark Lumber Co., also of Pittsburgh. The patterns were developed by McCall's magazine.

It's part of a new merchandising gimmick for the do-it-yourself trade. McCall's thought up the basic idea. Mark Lumber Co., anxious to sell more wood, conceived the Pittsburgh variation—the idea of tying in with the vast merchandising setup of a department store.

• **One Stop Buying**—McCall's kicked off the do-it-yourself campaign for its woodworking patterns in a special January issue, and offered franchises for its first series of 13 patterns to 166 retailers throughout the country. In Pittsburgh, three retailers—including Kaufmann's and Mark Lumber Co.—got franchises.

S. L. Lifsher, president of Mark Lumber, decided to get together with Kaufmann's to market the patterns and the lumber at the same time, much as a yardgoods store markets dress patterns and material at the same counter.

• **Three-Way Deal**—This is the way Lifsher's idea works: Kaufmann's buys the patterns from McCall's; the lumber, already packaged, from Lifsher. The patterns, selling from 45¢ to 75¢, are transfers that can be ironed right on the wood as a guide in making tables, benches, cabinets, and other household items. The kits, which retail from $5.95 to $55, each contain enough wood for one specific pattern. Items range from simple wall ornaments to dining tables and writing desks.

Lifsher, attracted by the marketing potential of a department store, figures Kaufmann's heavy store traffic and big customer lists will make new friends for his lumber business. Kaufmann's considers the tie-in a smart way to beef up its traffic and cash in on the do-it-yourself trend.

• **Pay-Off**—This week, Kaufmann's and Mark announced the whole deal in a joint newspaper ad. They sparked the tie-in with a one-night class run by Mark at the Kaufmann store to instruct customers in woodworking knowhow. From the start, Kaufmann's reported a humming business.

Mark meanwhile will continue to distribute the patterns on its own franchise, and sell the kits at its own lumberyard.

McCall's says it will provide display material to its other franchised outlets for similar tie-ins.

Cutraters Move to Suburbs

Cutrate operators are planning shopping centers . . . Dow pushes magnesium for consumer goods . . . British company buys Capitol Records . . . Central air-conditioning is the big hope . . . United Parcel-Air cuts rates . . . FTC won't reopen the Indiana Standard case.

The suburban shopping center planned for cutrate operation may make a place for itself in retailing.

This week ground was broken for a 70,000-sq. ft. center called Thriftmart outside the booming new town of Levittown, near Philadelphia. The center will be the first of a string, all of them featuring cutrate stores, planned by Thriftmart, Inc. This new organization is headed by J. Howard Denny, former president of New York's Franklin Simon department store.

The Thriftmart move follows on the heels of a recent announcement by a New York City discount house, E. J. Korvette & Co., Inc., that it will develop a shopping center in populous Long Island. A Korvette discount store will be the chief feature of the new center.

For the most part, shopping centers have tended to put their heavy emphasis on the middle-income customer. It is a common complaint of shoppers all over the country that suburban centers do not have the variety of goods offered downtown, either as to sizes and selection or in the range of prices (BW—Jan.15'55,p43). The two moves may foreshadow an effort to fill in this gap.

Thriftmart will lease only to independent retailers—no chains. And there will be no dominating stores. The Levittown center will contain some 400 outlets of all kinds, from insurance offices and banks to bowling alleys, restaurants, and the like. The center will have a farmers' market next to it. Overhead will be low.

The organization says it will encourage competition among the stores. It will, however, says Denny, keep a wary eye on advertising claims and product standards.

•

Dow Chemical Co., with increased production facilities for magnesium, is anxious to promote the metal's use in consumer goods.

Its first major success came this week when Shwayder Bros. maker of Samsonite luggage, unveiled a new line of luggage called Ultralite. Items in this line are made of magnesium and covered with vinyl plastic. Retail prices: $22.50 to $37.50.

This is a coup for Dow, since Shwayder has an estimated quarter to third of the luggage market. Dow is hoping for a rash of magnesium consumer products from carrying cases to card table tops.

•

Sale of controlling stock in Capitol Records, Inc., to Electric & Musical Industries, Ltd., of Great Britain reflects a complicated and competitive international fight for distribution of disks.

EMI bought out Capitol's three principal stockholders last week for $8.5-million, nearly twice the book value rate. The deal came as a surprise to many—including some Capitol people. EMI's U.S. subsidiary has the American distribution of high-fidelity classical recordings under the Angel label, raising the question of how Capitol catalogs would fit in.

The move, however, hinges on the foreign market. EMI has lost distribution of Columbia records abroad, is reported to be losing foreign distribution of Victor as well. Capitol, therefore, offered EMI a ready-made full American catalog for European markets. Capitol, on the other hand, has found it tough to compete with Columbia and Victor in the distribution of imported classics in this country, hopes EMI can give it a lift in this direction. Capitol will continue under present management.

•

Despite some setbacks, the air-conditioning industry's total sales hit a record of nearly $2-billion in 1954. In reporting this last week, Carrier Corp.'s Pres. Cloud Wampler predicted another rise in 1955, to $2¼-billion.

Room conditioners were 1954's big disappointment (BW—Nov.6'54,p29). Retail sales came to only about 900,000 units—same as 1953—instead of the expected 1.2-million units (BW—Jan.23'54,p56).

Central residential equipment, on the other hand, jumped 50%, to 75,000 units. This should go to 125,000 in 1955, Wampler said—with existing homes getting a major chunk. Last year, when Carrier made its first big play for the existing home, this market accounted for about 35% of the company's total residential unit sales. This year, its new Summer Weathermaker, for homes with no central duct system, should help push such sales to over 50% of the total, Wampler says. Existing office buildings, too, made their mark; for the first time last year they outstripped new buildings as a market, by a score of two to one.

To answer the burning question of operating costs, Carrier has worked out a schedule to cover cooling costs for any area of the country.

•

Beer championship for 1954 again went to Anheuser-Busch, says August Busch, Jr., president. The St. Louis brewer took the crown from Schlitz last year (BW—Feb.27'54,p48). Early estimates, though, indicate that the winner's 1954 sales fell short of 1953's record of 6.7-million bbl.

•

United Parcel Service-Air, already the lowest-priced air freight forwarder in the business, has trimmed its charges still lower.

With a Civil Aeronautics Board stamp of approval last week, UPS-Air will now deliver packages from coast to coast at rates like these: 52¢ for 1 lb. (against 90¢ for air parcel post and $2.75 for air express); $1.81 for 5 lb. (against $4.10 and $5.77); $6.79 for 20 lb. (against $16.10 and $17.08).

UPS, primarily a local retail package delivery service, sprouted wings less than a year and a half ago (BW—Nov.7'53,p62). UPS-Air found it could charge lower rates by shipping its packages via regular commercial air cargo carriers, using its own store-to-door delivery trucks to carry them to and from the airport. The company attributes its new slashed rates to increased volume (up 77% during last quarter over the same period in the previous year) and to greater handling efficiencies.

Local delivery in East and West Coast cities and Chicago and Detroit is still the bulk of UPS' business. UPS-Air operates only between those points, makes no attempt at so-called special handling. The air service is handled in conjunction with its regular deliveries.

•

The Federal Trade Commission will not reopen its files on the stormy price discrimination case decided in 1953 against Standard Oil Co. of Indiana.

This apparently is the last round in a battle that started over a decade ago. FTC's original complaint charged that Standard gave lower prices to four Detroit gasoline jobbers than it gave to others for the same goods. The company based its defense on "good faith." Then the battle went like this:

Round 1: FTC ruled that "good

says an engineer

. . . "I judge solely by facts—the record for on-time arrivals and departures is what impresses me about

SWISSAIR

TRANSATLANTIC FLIGHTS

NEW YORK • PHILADELPHIA • CLEVELAND
CHICAGO • SAN FRANCISCO • LOS ANGELES

New PLAN-GEAR Compound Planetary TRANSMISSION

What a Sales Feature!

. . . if you make a machine which requires gear shifting

• The PGT-150 is as simple to operate as an electric motor. No clutch to push. No operator fatigue. Only one hydraulic control lever shifts the PGT-150 Plan-Gear Transmission from high to low or reverse in only 1½ seconds. It's utterly smooth . . . no shock, no jerk, no noise.

• Built-in oil pump provides pressure for actuating controls, lubrication, and torque converter. Rated at 150 pound-feet continuous input torque for constant duty.

1. Input shaft
2. Hydraulic clutch actuator
3. Multiple disk clutch for locking planetaries
4. Low speed planetary
5. Reverse planetary
6. Output shaft

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faith" in meeting a competitor's lower price was not a complete defense to a price discrimination charge.

Round 2: The Supreme Court reversed this ruling, said that good faith was a complete defense, sent it back to FTC.

Round 3: FTC simply said that Standard Oil had not established its "good faith" defense and re-issued its original order. (This was the old Democratic FTC.)

Round 4: Standard Oil last spring asked the new Republican commission to reconsider previous findings.

In its very brief order denying Standard's motion, FTC implied that the real basis presented by Standard as a reason for reconsideration was the subsequent change in membership of the commission. FTC said its previous decisions on similar moves made since the Republicans took over "govern" the Standard Oil motion: It will not reopen decided matters merely because the membership has changed since they were decided.

•

Westinghouse Electric Corp. thinks it has a way to plug the holes that several state courts have knocked in retail "fair trade" contracts.

The company announced this week it will sign its price maintenance contracts with its distributors of small appliances at the wholesale—rather than retail—level. This is a practice that is used in other industries.

Normally, Westinghouse—like most other appliance manufacturers—signs its fair trade contracts with retailers. But several state courts have held that a retailer who does not actually sign a fair trade contract does not have to abide by fair trade prices.

By switching to wholesale fair trade, Westinghouse will now depend on the wholesalers to police prices at retail.

•

Detrex Corp., Detroit manufacturer of dry-cleaning equipment, has formed Detrex Finance Co. to enable its 35 distributors to finance the sale of equipment through a single source. The wholly owned subsidiary will finance the "complete package" of equipment required to establish or modernize a dry cleaning operation, including items made by companies other than Detrex itself.

•

S. S. Kresge Co., variety chain, set a new record in December, when sales were the highest for any single month in the company's history. They topped the previous record, of December, 1953, by 2.6%. Total Kresge sales for the year are slightly ahead of 1953's total.

Weren't you on the air last night?

Think back. Did nothing unusual happen last night?

How about that phone call—from a distant friend or a boy in service or a business associate, separated from you by long miles, maybe mountains, water, forests, and desert?

You and your other party may well have been the momentary actors in a "radio show" that is changing the face of the earth, squeezing it smaller. It's a show carried on electronic wings which span mountains and lakes to carry your voice over country where only horses, jeeps or motorboats could penetrate.

This is the magic of *Microwave,* a modern development which makes the communication of man with man forever free of geographic bounds or obstacles. The words you speak into your telephone are transformed into radio signals of so high a frequency that your home radio can't catch them. Then they are "bounced" from tower to tower over terrain where the usual telephone poles and wires could be installed only with great danger and at prohibitive cost.

Microwave's advantages are obvious. Ice can't form on a radio beam; wind can't blow it down nor can landslides uproot it. Its high-frequency beams are as quiet and static-free as the familiar sound of your FM radio or high fidelity record player.

You need more than a screwdriver to furnish Microwave links to America's 5200 independent telephone companies, as we do. You've got to have a heap of knowledge in electronics *and* telephony, too. We've a corps of experts and 60 years of experience. Have *you* a problem we could tackle? If so, we would welcome a request for more information.

There is nothing finer than a

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"Panoramic Vision" Television Receivers · Radios and High Fidelity Radio-Phonographs · Sound and Public Address Systems · Office Intercom Equipment · Electronic Carillons for Churches and Public Buildings

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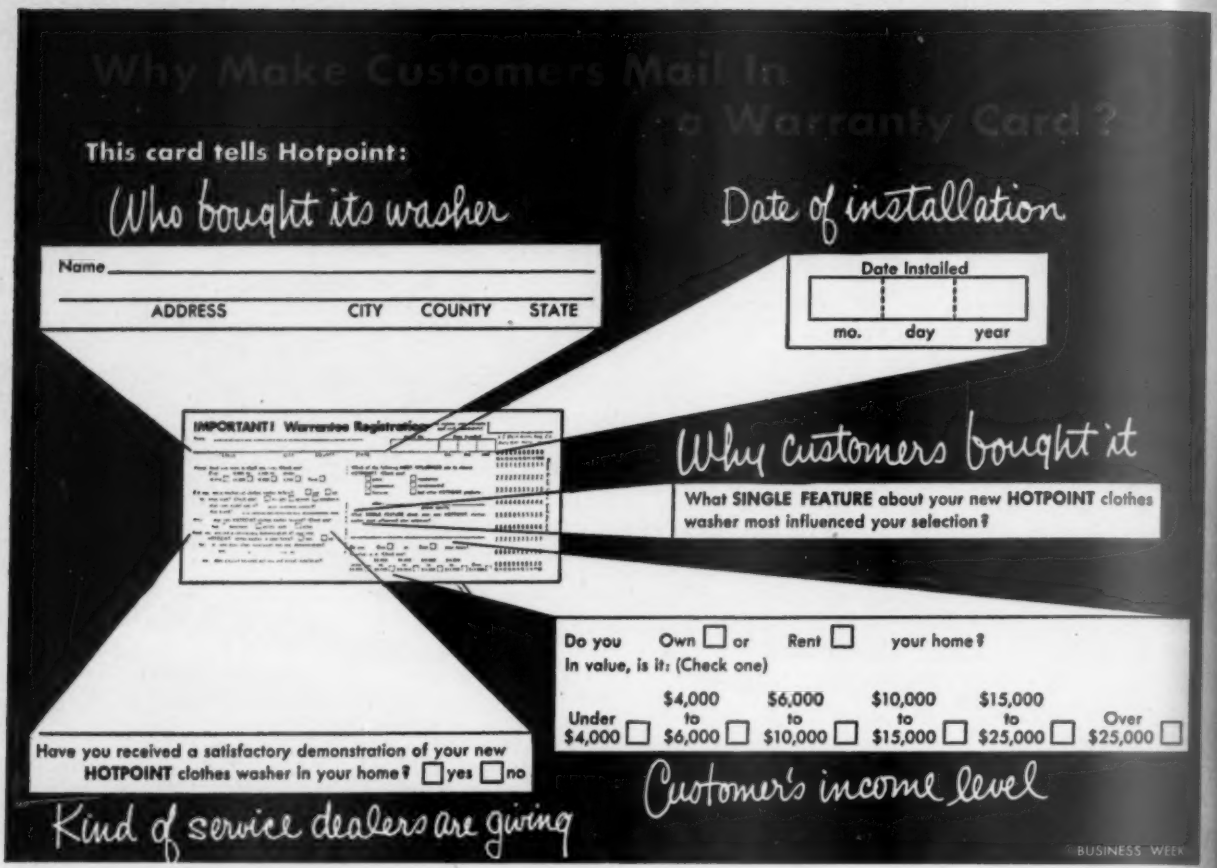

Why Make Customers Mail In a Warranty Card?
This card tells Hotpoint:
Who bought its washer
Name
ADDRESS CITY COUNTY STATE
Date of installation
Date Installed
mo. day year
IMPORTANT! Warrantee Registration
Why customers bought it
What SINGLE FEATURE about your new HOTPOINT clothes washer most influenced your selection?
Do you Own ☐ or Rent ☐ your home?
In value, is it: (Check one)
Under $4,000 ☐ $4,000 to $6,000 ☐ $6,000 to $10,000 ☐ $10,000 to $15,000 ☐ $15,000 to $25,000 ☐ Over $25,000 ☐
Have you received a satisfactory demonstration of your new HOTPOINT clothes washer in your home? ☐ yes ☐ no
Customer's income level
Kind of service dealers are giving
BUSINESS WEEK

It's One Way to Tell What's Selling

Anyone who buys an electrical appliance nowadays will probably find a warranty card (picture) in his package. This is a card the consumer fills out, giving his name and address, what he bought and when he bought it, and maybe other information. Then he mails the card back to the factory.

The ostensible purpose is to register the date of the sale or installation so that the factory can determine the guarantee period. But the real purpose of the cards goes far beyond this. Warranty cards provide one more statistic to fill the gap in the manufacturer's knowledge about how his product is selling at the all-important retail level. With this knowledge, he can better gear his production to demand. In many cases, the company seeks further information via the cards—not only how many people are buying but who they are and why they buy.

• **Balance Factor**—The growth of the warranty card in the past few years is right in line with other developments that aim at keeping production adjusted to the state of the distribution pipelines: the retail inventory surveys of Collegiate Associates for Market Measurement (BW—Oct.2'54,p44), for example; or the retail poll of Radio-Electronics-Television Manufacturers Assn. (BW—Oct.30'54,p56).

In fact, the cards have won such recognition that National Electrical Manufacturers Assn. now uses them as the basis for calculating a weekly index of retail sales; this index goes only to the manufacturers who submit their warranty card information to NEMA. The American Home Laundry Manufacturers Assn. does a similar job.

• **How Good?**—This raises a very important question: Just how reliable an index of sales do warranty cards provide?

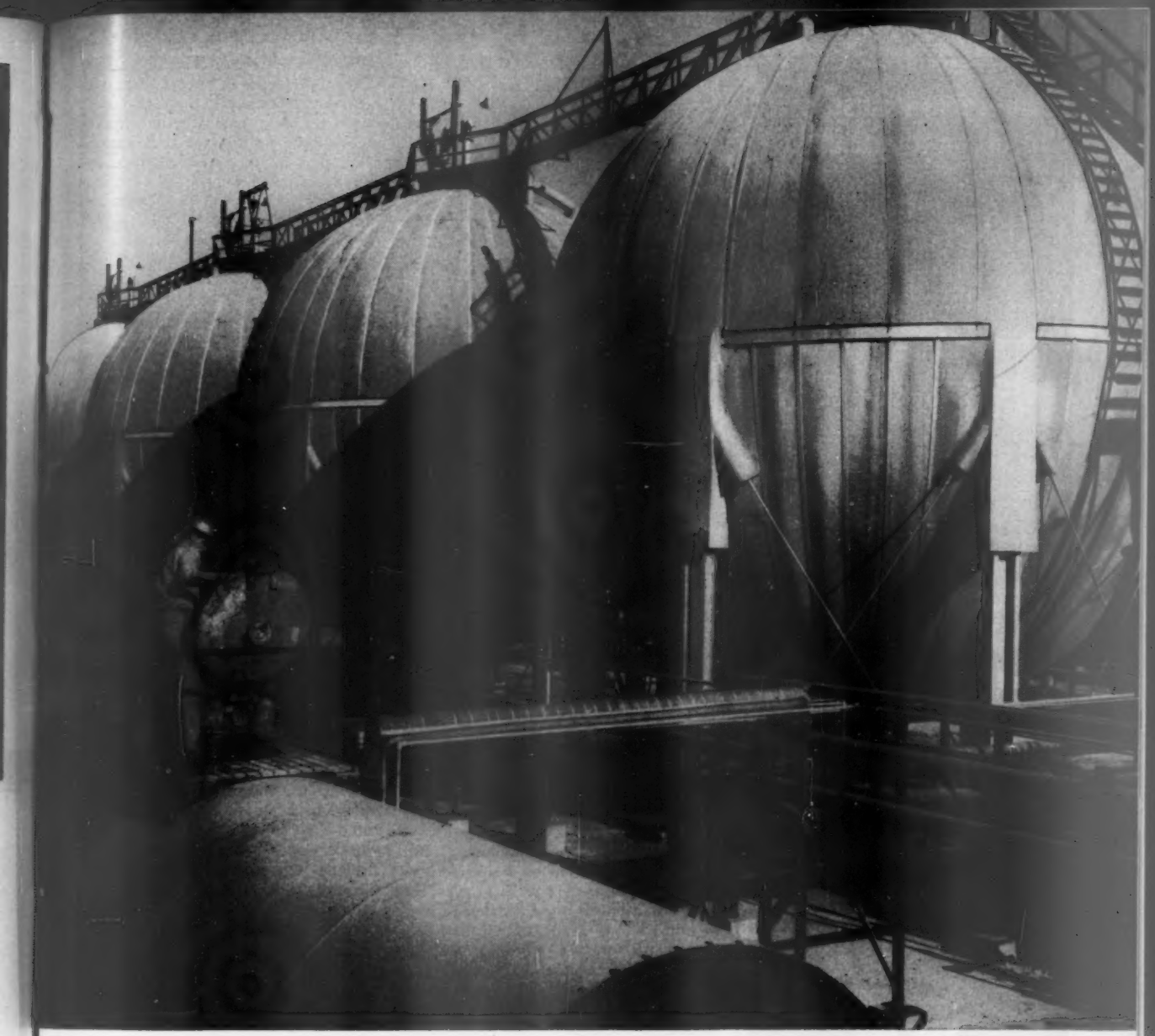
Obviously, if every consumer immediately mailed a card telling a manufacturer he had just bought a refrigerator, say, the manufacturer would have some invaluable information to guide him. The warranty card isn't that good. There are two schools of thought on just how good it is. But a General Electric Co. official sums up the thinking of many warranty card users when he says that, carefully used, the cards are a fine production and merchandising ally.

• **Case History**—Hotpoint Co.'s experience is fairly typical of other companies' findings. Hotpoint initiated its warranty program back in 1949, when NEMA began to urge the system on the industry.

The first thing, of course, is to induce the customer to return the card. The technique here is to make it look important, suggest that the card is the means of validating the manufacturer's guarantee. Actually, says Hotpoint, the cards are strictly for market research; the manufacturer has to honor the warranty whether the cards are sent in or not.

The first year was an exploratory one. The big question was: How many buyers mail the cards in? Hotpoint keeps track of its findings by making an occasional spot-check. It puts a known number of cards with identifying marks on them in the packages. Then it watches those marked cards come in.

• **Score**—On the average, Hotpoint finds that about 50% of the warranty cards come back. But that ratio varies



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Consider, too, Mathieson's balance and flexibility in the production of other basic industrial chemicals. 6 caustic soda plants, 5 chlorine plants, 7 sulphuric acid plants, 3 major alkali plants, give customers the dependability they want. In addition, Mathieson offers practical technical service in ammonia pulping and aqua preparation, as well as assistance in the application and handling of ammonia and other Mathieson basic chemicals.

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Appliance Dealer Says KLIXON Protectors Keep Customers Happy

WHITE PLAINS, N. Y.: Mr. Jack Leibert of Leibert Bros. speaks from many years of experience when he gives Klixon Protectors outstanding credit for protection. He says:

"In my 15 years in the appliance business I have found Klixon Protectors invaluable in saving motor burnouts and in consequence leaving our customers happy."

The KLIXON Protector, illustrated, is built into the motor by the motor manufacturer. In such equipment as refrigerators, oil burners, washing machines, etc., they keep motors working by preventing burnouts. If you would like increased customer-preference, reduced service calls and minimized repairs and replacements, it will pay you well to ask for equipment with KLIXON Protectors.

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from one appliance to another, and from one model to another.

Generally, returns are poorest on appliances that a builder or plumber installs. The builder just doesn't bother. Against the over-all 50% average, says Hotpoint, water heaters have only a 27% return; Disposalls, 25%.

Higher-priced models bring in a bigger haul than less expensive ones. This is partly because builders buy the "standard" lines for mass installation; partly it is because the homeowner who pays out a lot of money wants to be sure to get the warranty protection.

Thus, the high-priced push-button line of ranges brings in 50% of the cards; the standard line has only a 38% return.

• **Pattern**—Over the years, Hotpoint has found that these percentages, once established, remain very stable. The only big changes can be traced to shifts in builder participation in purchases. Hotpoint can spot these readily, since they involve quantity purchases.

Once it has the cards, Hotpoint breaks them down by regions corresponding to its sales setup. This way, it can spot regional shifts in buying patterns—whether these are seasonal or due to special conditions: a poor distributor, perhaps, or a hot or cold wave that might affect specific appliances, employment conditions, and the like.

Hotpoint figures its cards give it three main results: a check on retail sales, information to guide its designers and advertisers, and a starting list of owners of Hotpoint appliances. For example, its question on home demonstrations (picture, page 50) gives the company a check on its dealers. Good demonstrations that show the consumer how to use an appliance cut down on service complaints.

• **Danger Signals**—Warranty card users, however, warn that the cards can cause trouble if there aren't proper controls.

First, the relatively small returns on some appliances make it harder to follow the sales pattern accurately.

Second, there is the time lag between the purchase and the return of the cards. Some new purchasers mail them in promptly; others wait weeks, or months. The manufacturer is more interested in retail sales last week than six months ago. And projecting the figures can be risky since the time lag is not uniform.

To some extent, users find this no great hazard. Hotpoint finds that 75% to 80% of the cards arrive within 10 or 12 days of the purchase date; Carrier Corp. reported in a recent issue of the Journal of Marketing that about 70% come within one week after the week of installation. Furthermore, the experts, as this same magazine indicates, have worked out formulas to determine the margin of error possible.

• **Pros and Cons**—A last question concerns the research questions that some cards ask. How good are the answers?

When the returns are large enough, the market analysts believe, the sample is probably fair enough. When returns are small, some kind of crosscheck would be advisable.

Archibald Crossley, of Crossley S-D Surveys (BW—Oct.9'54,p119), comments that in the usual mail questionnaire you run into this problem: Busy people, especially in big cities, are apt to slight the answers; thus your sampling tends to be lopsided in the direction of the rural or suburban market. The lowest income group, too, tends to be more wary of putting anything down on paper.

Some of the experts feel the questions are all right if you keep the number down and don't get too nosey. Carl Henrikson, vice-president of Crossley S-D Surveys, believes that manufacturers might well use the cards more often to take the public's pulse.

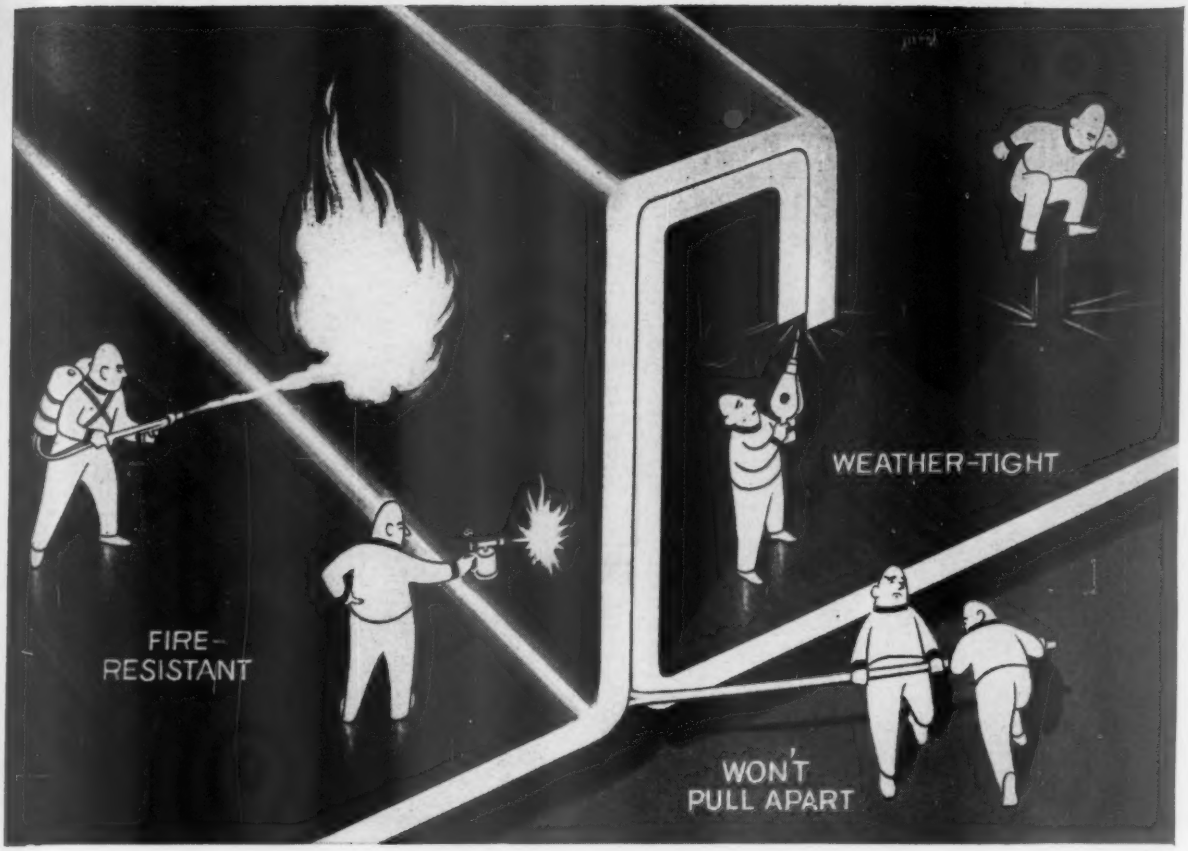
At least one advertising man disagrees. The card's primary purpose, he says, is to get at what sells. Additional questions that clutter up the cards simply confuse the issue. Furthermore, the manufacturer's concern is the flow of his goods. Unless he does some further work, the cards won't tell him about dealer inventories.

Actually, some companies—Norge, for one—use the cards for this purpose. Norge balances its retail sales, as indicated by the cards, against its own weekly reports on distributors' sales to dealers.

Both friend and foe of the warranty cards have examples to make their points. A critic cites the case of a company whose distributors discovered one item was moving slowly. Distributors and dealers put on a big promotion to dump the product. It worked so well that the manufacturer misread the signals and reacted with stepped-up production.

On the other hand, a confirmed warranty card addict reports that when its retail sales index lags behind the industry's, it can often find the reasons—and fast—on the warranty cards. Sunbeam Corp., which reports that it gets back some 3-million cards a year out of some 5-million, finds that by following the cards it can estimate the whole trend of business.

Paul Smith, of Compton Advertising, Inc., believes the cards are a makeshift, that the day will come when electronic computers will register retail sales a lot faster and more accurately. Others agree that this is likely. Meanwhile, says Henrikson, "Even if the information can't be trusted too implicitly, it's a whole lot better than no information."



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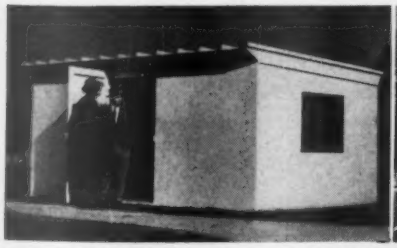
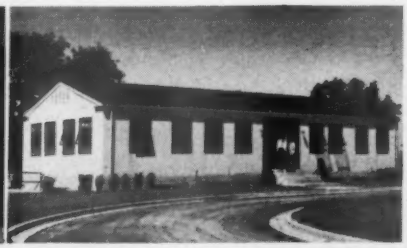


Armco Steel Buildings can meet almost every building need. Shed roof type (left) is ideal for pump and meter houses and other small utility buildings.



Gable roof type (right) can be adapted for warehouse, office, shop, etc. Doors and windows can be added wherever needed.

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Billion-Dollar Bank Club:

BANK	DEPOSITS: Amount (Millions of dollars, Dec. 31) 1954	1953	Rank '54	Rank '53	Percent in Loans '54	Percent in Loans '53	Percent in Cash & Govt's '54	Percent in Cash & Govt's '53	RATIO OF DEPOSITS TO CAPITAL FUNDS '54	'53
Bank of America (S.F.)	$8,271	$7,744	1	1	49%	54%	47%	42%	18:1	18:1
National City Bank (N.Y.)	5,639	5,538	2	2	41	43	56	55	10:1	14:1
Chase National Bank (N.Y.)	5,379	5,062	3	3	42	47	55	48	14:1	13:1
Manufacturers Trust (N.Y.)	2,802	2,699	4	4	30	34	67	64	15:1	15:1
First National (Chi.)	2,688	2,621	5	5	48	45	56	57	13:1	14:1
Chemical Corn Ex. (N.Y.)	2,624	1,816	6	10	37	43	56	57	14:1	14:1
Guaranty Trust (N.Y.)	2,600	2,521	7	7	53	56	59	56	6:1	6:1
Continental Illinois (Chi.)	2,477	2,537	8	6	28	31	76	72	11:1	12:1
Bankers Trust (N.Y.)	2,028	1,908	9	8	51	52	53	54	11:1	11:1
Security-First Nat. (L.A.)	1,947	1,875	10	9	26	29	76	74	15:1	15:1
National Bank of Detroit	1,692	1,700	11	11	22	21	72	73	16:1	18:1
Mellon Nat. (Pitts.)	1,620	1,580	12	13	35	41	61	60	7:1	7:1
Hanover Bank (N.Y.)	1,591	1,656	13	12	40	43	64	64	10:1	11.1
First Nat. (Boston)	1,571	1,536	14	14	47	45	57	59	12:1	12:1
Bank of Manhattan (N.Y.)	1,480	1,299	15	16	42	48	62	56	15:1	14:1
Irving Trust (N.Y.)	1,407	1,324	16	15	44	46	58	58	11:1	11:1
American Trust (S.F.)	1,337	1,198	17	18	48	47	51	52	17:1	18:1
Cleveland Trust	1,292	1,278	18	17	40	39	57	56	16:1	17:1

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Mergers Make Them Bigger Yet

The members of the Billion-Dollar Bank Club re-seated themselves to a considerable extent last year, as this tabulation shows. Members in the top five seats didn't budge, but the other 13 did a good deal of switching around.

The longest jump was that of Chemical Bank & Trust Co. in New York, from 10th place to sixth. Chemical did it by merging in October with New York's Corn Exchange Bank Trust Co. With Chemical's $1.7-billion in deposits (midyear figure) and Corn Exchange's $775-million, the merger was the biggest in U.S. banking history up to that time.

But only up to that time. Last week, directors approved a merger that dwarfs the Chemical-Corn Exchange one and, when consummated, will make changes in the second and third seats of the Billion-Dollar Club. The merger is between the Chase National Bank and Bank of the Manhattan Co. (BW—Jan. 8'55,p33). The new Chase Manhattan Bank will have deposits of almost $6.9-billion.

This will put the Chase back in position as the biggest bank in New York City, a rank that it surrendered to the National City Bank of New York in 1948. The merger will also make it the second biggest bank in the country—under San Francisco's giant Bank of America, which has branches throughout California. (New York law forbids city banks to set up branches outside city limits.)

• **Motives**—These two giant mergers were not motivated principally, or even largely, by a desire to change seats in the Billion-Dollar Club. In each case, the prime motive of the bigger bank was to extend itself from the confines of Wall Street and into the "neighborhood" banking field.

The Chemical had been largely a Wall Street "banker's bank." The Corn Exchange, on the other hand, had a network of branches throughout New York City. By joining hands with the smaller bank, the Chemical was able to get into the neighborhood banking business in a big way.

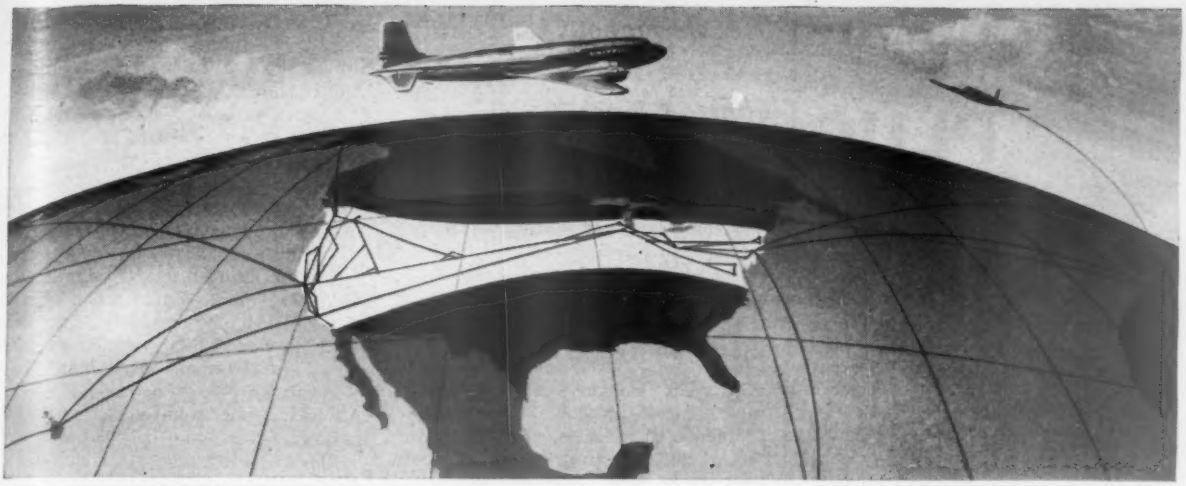
It was the same with the Chase. This big bank has put a lot of effort over the past few years into an attempt to endear itself to the general public. But to become a real neighborhood bank, the Chase realized, it would need branches outside the Wall Street area—and it had only a few, all but two of which were in Manhattan.

Bank of the Manhattan Co. had plenty of branches—35 in the Borough of Queens, where the Chase had none at all; eight in Brooklyn; five in the Bronx; and nine, plus the head office, in Manhattan. Moreover, virtually none of these branches was close enough to Chase offices so that duplication of facilities would result from a merger.

• **Contender**—Nobody knows as yet whether National City (which not long ago sold $131.2-million of new stock to bolster its capital funds) will take this demotion in the Billion-Dollar Club lying down.

In 1951, when an attempt to merge the Chase and Bank of the Manhattan Co. seemed on the verge of success, National City's chairman—William Gage Brady, Jr., since retired—is reported to have summoned his senior officers to a top-level closed meeting. He is rumored then to have said, "If this merger comes off, I expect you to get our deposits above the Chase's in three years."

There are rumors pointing in the same direction this year, too. National City, and other New York banks, are said to be looking for mergers to widen their branch setups. The feeling is growing that the day of the banker's bank is over; that from now on, the



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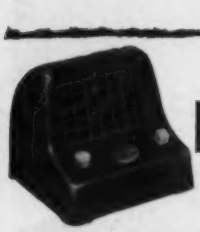

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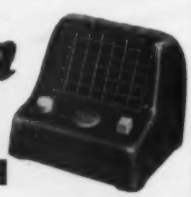

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"... throughout the country —a rise in deposits, a decline in loans ..."

BILLION-DOLLAR CLUB starts on p. 56

bank that broadens its branch facilities will stand the best chance of sharply increasing its deposits and earnings. A Filene Foundation study some years ago indicated, for the benefit of retailers, that the average shopper might not bother to patronize a store if he had to park his car more than 1,000 ft. from it. Bankers feel now that the same general precept probably applies to their own business.

• **Up and Down**—Despite all these changes in New York, the giant Bank of America stands unchallenged thus far as the biggest bank in the nation. Its deposits at the end of 1954 totaled almost $8.3-billion—well over a billion dollars more than New York's top-ranking Chase Manhattan will have.

But the San Francisco giant is prey to the same troubles as smaller banks. In 1954, though its deposits rose 6.8% over the year before, its loans—at around $4-billion—fell some $100-million.

This was the pattern throughout the country—a rise in deposits, a decline in loans. On Jan. 5, commercial, agricultural, and industrial loans outstanding in Federal Reserve member banks of 94 cities stood at $22.3-billion. This figure was $600-million below the total a year ago.

• **Reasons**—The drop in borrowing is attributed to these factors:

• Liquidation of finished-goods inventories in 1954 cut the demand for inventory loans.

• Many corporations during the year paid off bank loans from the proceeds of security issues.

• Heavy depreciation allowances in the corporate tax laws gave companies, in effect, an extra flow of money to add temporarily to working capital.

• Many corporations, shopping around for lower interest rates, used commercial paper instead of bank loans.

• **Cushion**—Most banks were able to offset this drop in borrowing last year through higher earnings on other investments. Banks fared particularly well on sales of securities. Their profits from this source were much greater in most cases than in 1953, when the money market had an unusual number of ups and downs. Largely because of this, many banks reported bigger total profits last year than in 1953. Here are some examples:

Chase National: Profit: $36-million net after taxes in 1954, compared with $27-million in 1953. Securities sales: $7.9-million profit in 1954, $3.5-million net loss in 1953.

Hanover Bank, New York. Profit: almost $12-million net against $9.9-million. Securities sales: $1.9-million profit against $37,000.

Guaranty Trust Co. of New York. Profit: $27.7-million net against $22.5-million. Securities sales: $10.2-million profit against $1.5-million net loss.

National City: Net operating earnings (before taxes): $31.9-million against $29.6-million. Securities sales: $7.3-million profit against $405,000 net loss.

• **Non-Members**—Banks not in the Billion-Dollar Club fared likewise last year. The Boatmen's National Bank of St. Louis showed a net profit of $1.3-million after expenses, taxes, and depreciation, but not including security transactions. The figure in 1953 was $1.1-million. In Chicago, Harris Trust & Savings Bank came out with $4.3-million after taxes against $4-million.

Non-members of the club showed the same tendencies to merge, too. One publicized pair of mergers took place in Dallas. Both the Republic National Bank of Dallas and the First National Bank in Dallas merged with smaller banks, and both moved a good deal nearer to the billion-dollar market (BW—Jun.26'54,p64).

Republic National merged with the National City Bank of Dallas; and at the close of 1954, its deposits totaled $706-million—against $577-million a year earlier. Its loans climbed from $278-million to $350-million. First National merged with the Dallas National Bank. Its deposits at yearend were $736-million, compared with $602-million; its loans were $310-million against $218-million.

• **Outlook**—What do bankers expect of 1955? Most of them see at least two rays of sunshine:

• Lower reserve requirements will let banks invest a larger proportion of their money in 1955.

• A moderate expansion in the economy, predicted by many observers, could mean more business for banks.

Chairman Howard C. Sheperd of the National City told stockholders at their annual meeting that his bank's earnings should be "substantially higher" this year than in 1954. Alexander C. Nagle, president of the First National Bank of New York, predicts that the demand for loans would be better in the first few months of 1955 than in the last few of 1954.

Bankers foresee a continuing trend toward mergers this year. The trend might be slowed, however, by a law proposed by Democratic Rep. Emanuel Celler of New York. He has introduced a bill calling for approval of any bank merger by federal banking officials. They would study each merger to determine whether it would "lessen competition unduly" or "tend unduly to create a monopoly."

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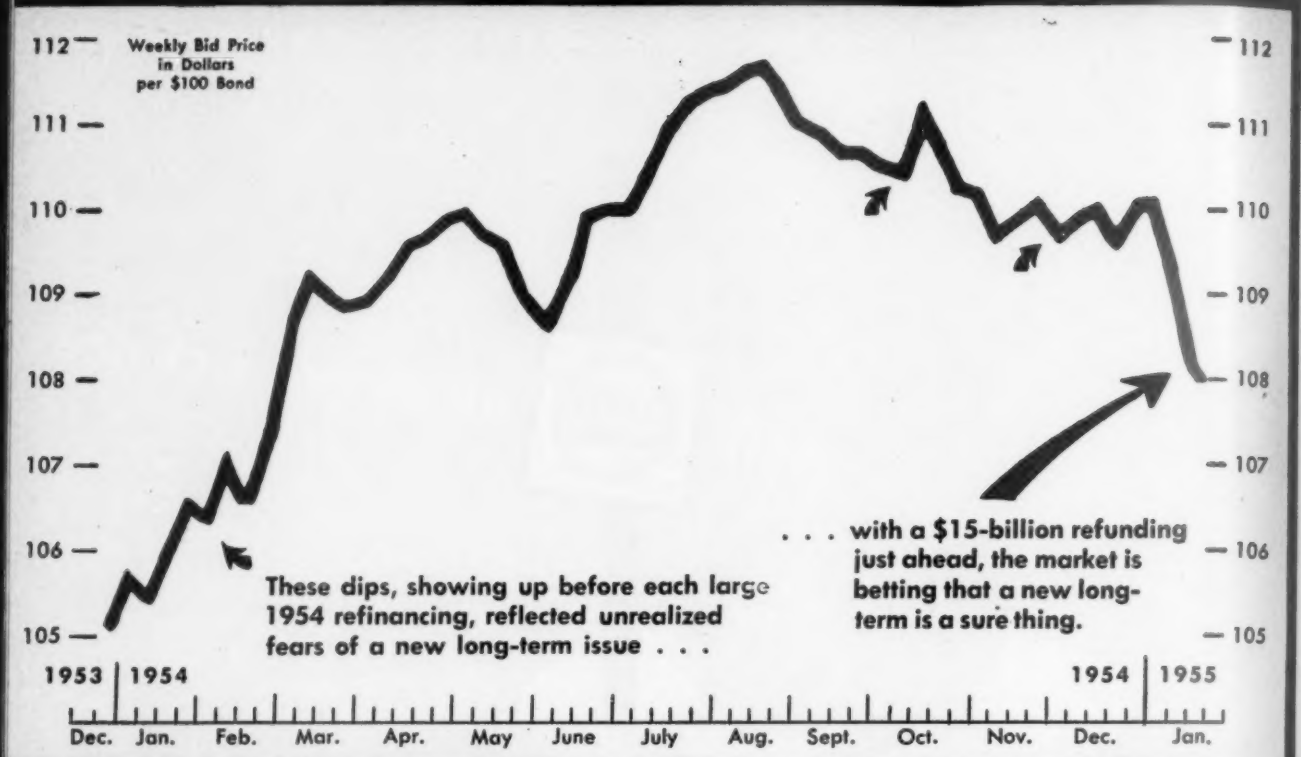
TREASURY 3¼s: Putting Odds on a New Longterm Issue



Money Gets a Little Tighter

Like most prices, the price of long-term Treasury bonds reflects a consensus of opinion—and, as the chart above shows, the consensus for the last two weeks has been hinting strongly that Treasury officials will bring out a new long-term bond in their February-March refunding.

Buyers of governments have slowed up their purchases before every big refunding in the past 18 months, waiting to see what Treasury's terms on new issues would be.

But the dip this time is much sharper than in the past. It reflects (1) the market's response to the Federal Reserve Board's slightly tighter money policy and (2) the conviction that part of the government's program will be a long-term Treasury issue.

• **Trend**—The price weakness in the government bond market is being felt in both the corporate and municipal bond markets, keyed as they are to fluctuations in governments. Last week, for instance, Duke Power Co. came into the market with a top-rated 20-year debenture issue, priced to yield 2.95%. As in the past, many bond buyers passed up the issue because it carried a less-than-3% yield (BW—Nov. 20'54,p128). One week after the initial offering, 40% of the bonds were still unsold.

As a result, the syndicate was broken up and the bonds allowed to find their own level in the free market. They soon hit a bid price of 100.12, well under the 100.75 offering price, and even lower than the 100.17 price the syndicate paid for the bonds.

Another indication of a tightening in the securities markets was last week's postponement by New Jersey's Public Service Electric & Gas Co. of its offering of 250,000 shares of preferred stock "in the light of current market conditions."

Municipals have held up fairly well over the past few weeks, but most tax-exempt securities indexes mirrored lowering prices. And the big block of $118-million of new local housing authority bonds offered last week was running into trouble. Lehman Bros., syndicate manager, called the issue the "toughest marketing job since January, 1953." After three days of selling, there were still around $50-million of the bonds left unsold.

• **Money Rates**—The conditions in the bond markets are, of course, vitally related to the cost of money generally. There is general agreement throughout the money market that interest rates this year will be at least moderately higher than they were in 1954 (BW—Dec.18'54,p121).

There are plenty of signs of this already. The Federal Reserve has been promoting slightly higher rates by selling Treasury bills in the open market or allowing them to mature—last week some $341-million worth got this treatment. Excess reserves of member banks have been pared by some $220-million—though they are still not much below last January's levels. And the Fed's tightening of margin requirements for stock purchases is definitely related to this general pattern, if only as a psychological warning.

• **Signs**—The effects of the Fed's actions were becoming noticeable toward the end of last week. The first sign came with a rise in yields of bankers' acceptances—bills used in exports, imports, and domestic shipments that indicate a bank is backing the credit of the purchaser. This rate went up ⅛ of 1% to 1½% for prime three-month acceptances.

A similar reaction to changing money market conditions was noted when two commercial paper houses raised rates on commercial paper by ⅛ of 1%—the

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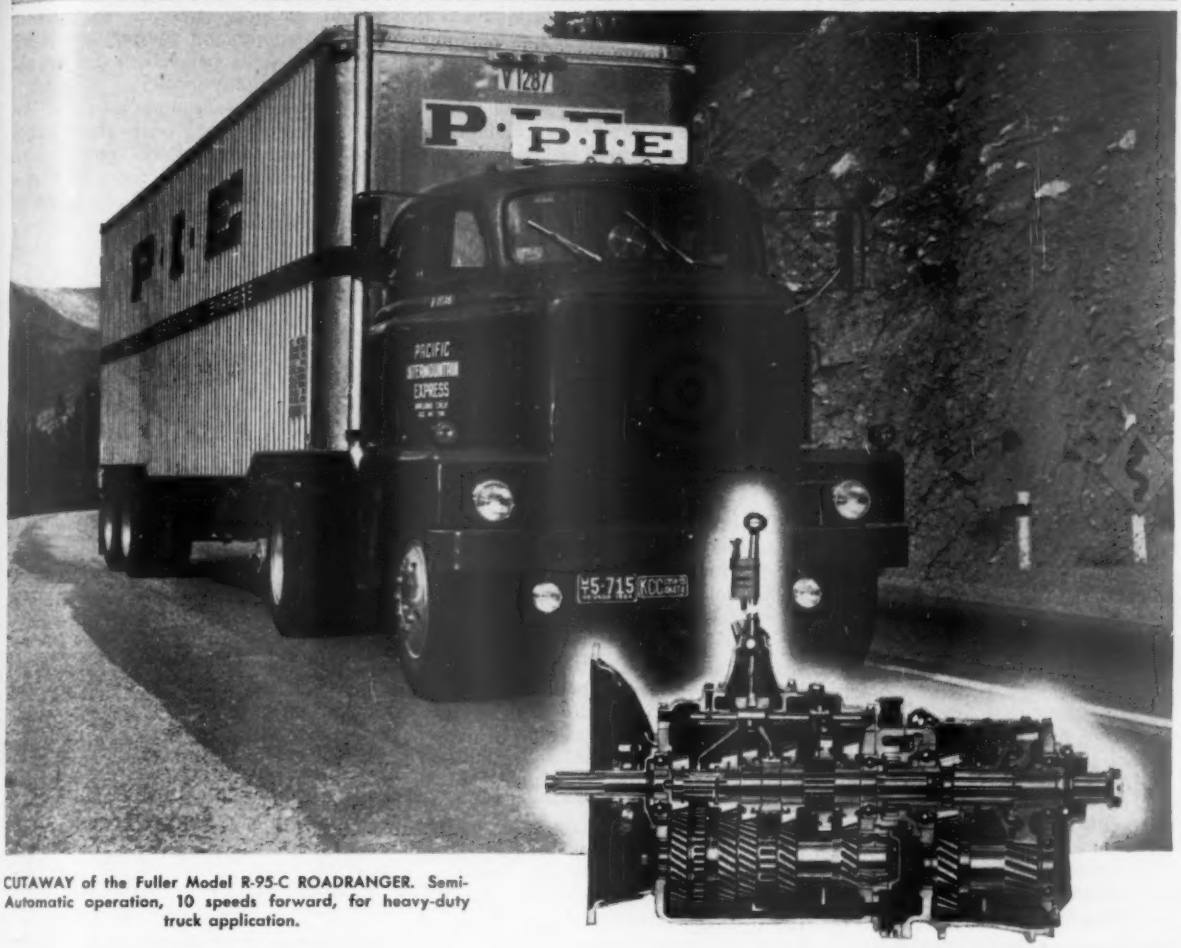

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first rate rise in 14 months. Yields on prime four to six month notes went to 1⅜% from the previous 1¼% rate. This is also the first rise after seven consecutive reductions through 1954. Quick to follow were two of the country's biggest credit companies, General Motors Acceptance Corp. and Commercial Credit Corp., which jacked their rates up ¼ of 1%. GMAC paper will now carry a rate of 1⅜% to 1¾% for three to six month paper. Smaller dealers came right back with a ¼ of 1% rise on top of their first rise of ⅛ of 1% less than a week before, putting their rates at 1⅜% to 1⅞% for three to six month notes.

The Treasury this week was only able to sell its weekly offering of 90-day bills at an average yield of 1.40%, the highest since December, 1953. This is further proof of a decided shift in the money market pattern.

• **Soundings**—It is in this atmosphere of general money tightening that the Treasury's ambassadors will sound out bankers, life insurance companies, pension funds, and others this week or next, on how the market might receive a long-term bond.

A clue to Treasury's philosophy on refundings and getting new money came out of last month's hearings before the House-Senate Subcommittee on Economic Stabilization. In its reply to the committee, Treasury said, "The success of Treasury financings is dependent on its ability to offer attractive securities at those times and in those markets where market demand exists."

• **Doubts**—This philosophy leads many market observers to believe that there will be no long-term bond, despite the indications in market behavior. These observers argue that money is plenty tight enough now, that there is actually very little investor demand for another long-term Treasury bond.

They point out that huge chunks of institutional cash are going into the mortgage market. In fact, they say, many institutions are selling governments now to shift their investment into mortgages, where yields range from 4% to 5¼% and the new liberalized government guarantees make mortgages "as safe as governments." One huge mortgage buyer, the Prudential Insurance Co. of America, has even made a deal to borrow from banks throughout the country to help finance future purchases of government-insured mortgages (BW—Jan.1'54,p61).

The prospects are for an even hotter pace of construction activity this year than last (page 26), with some optimistic estimates running as high as 1.3-million starts.

This school of thought contends that a long-term bond issue now might have a disruptive effect on such a market (though conceding that repercussions would not match those in 1953, when the 3¼s rocked the market sharply). And a drastic tightening of credit now would be most severe in the market for automobiles and housing, which are regarded as the bellwethers for an expanding economy in 1955.

• **Anticipations**—Another group of observers, going along with the market indications, offers some potent ammunition in support of the view that a long-term bond is due. They point to the fact that there is more money around now than there was in May, 1953, when the 3¼s were issued.

However, few of them anticipate anything more than making holders of the 2⅞% bonds ($2.6-billion of which are being called Mar. 15) eligible to subscribe to the long-term issue. Even this would be considerably more than the $1.6-billion of 3¼s that were offered.

In Washington itself, sentiment seems to favor a new long-term bond, for "psychological reasons" more than anything else. The Washington view is that it may be a token amount, say as little as $1.5-billion or even less, but that, like the Fed's action in upping margin requirements, it would have the effect of saying, "Take it easy, boys."

Many Capitol observers figure that the Fed is moving toward tighter money by increasing margins and sopping up excess reserves, and that now it is Treasury's turn to act. There is some concern in the top circles of the nation's money managers over the boom in mortgage credit, but any moves are likely to be cautious because of the political implications in the housing picture.

FINANCE BRIEFS

No merger is in the cards between J. C. Penney Co. and Montgomery Ward & Co., according to Penney's president, Albert W. Hughes. The statement deflated the stock of Montgomery Ward on the New York Stock Exchange some $2.50 per share.

•

Brokers' loans outstanding were up $17-million last week, to the highest total—$1.5-billion—since the Federal Reserve Board started compiling figures on them in 1944. This rise came in the face of the Fed's action increasing margin requirements from 50% to 60%.

•

The New York Trust Co.—66 years old and the city's 11th largest commercial bank—plans to enter the consumer installment loan field. The shift was decided on when the bank found that customers who had to go elsewhere for personal loans stayed away, and took their corporate borrowing with them.

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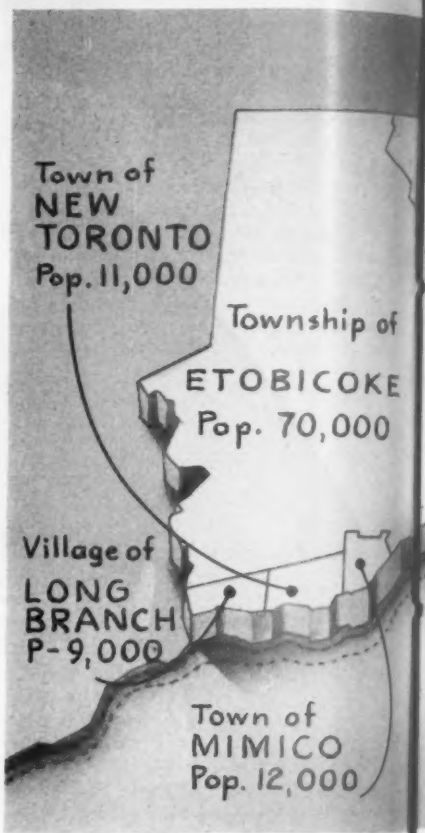
The Municipality of Metropolitan Toronto

- Two years ago, Toronto launched a unique experiment to solve the problems arising from swift suburban expansion.
- A new level of government was created with wide federal powers over the city proper and its 12 suburbs.
- In Canada and the U.S., cities are watching its progress anxiously. And Montreal is weighing a similar, but even broader, plan.
- At home, there is wide disagreement on the results.



City-Suburb Federation: How

For more than a year and a half now, the city of Toronto and the 12 townships around it have been able to claim a unique possession—a form of government different from any other in North America (BW—Mar.28'53,p162). This week, however, there were signs that the possession might have to be shared.

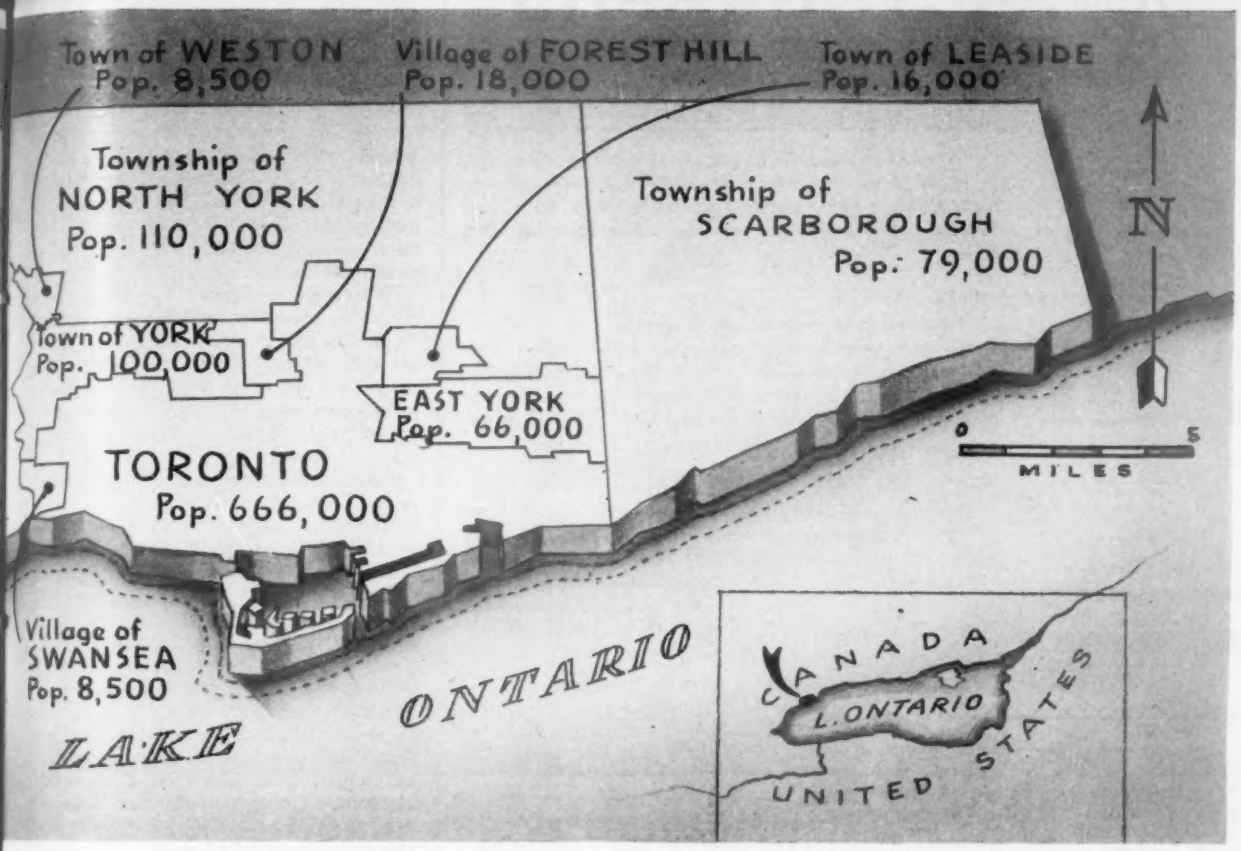
In Montreal, a two-year-old study commission brought in a majority report recommending an arrangement strikingly similar to Toronto's. To handle the area-wide problems of Metropolitan Montreal, the commission called for a new governmental body, made up of representatives of the city, the suburbs, and the province. Under the wing of this body, it planned to tuck responsibility for a long list of metropolitan services now nurtured by the individual municipalities—water systems, sewers, mass transportation, housing developments, health clinics, and others.

• **A Trend**—Montreal's plan, which actually goes several paces beyond Toronto's, may tread on too many local toes for it to win quick approval (the commission's minority report thought it would strangle the suburbs). But the mere fact that it has been proposed is significant, if only as one more piece of evidence of the growing awareness in both the U.S. and Canada that the metropolitan problems of city and suburb require joint metropolitan solution. For this awareness, Toronto's experiment must take at least partial credit.

Toronto's plan of local federation may be unique on this side of the Atlantic (actually, the closest thing to it anywhere is the London county arrangement in England). But the problems it seeks to solve—problems that spring from the tremendous growth of the suburbs in the age of the automobile and the shorter work week—are common to practically every big metropolitan area.

• **The New Life**—The shift in living that has made the urban worker a suburban dweller has, in fact, made suburb and city into one continuous community. Yet the old political lines of the independent municipalities persist, blocking planning, development, and government of the community as a whole. At best, this produces a piecemeal approach to common problems; at worst, it results in grave inequalities stemming from varying needs for services and varying tax capacities within the towns to provide them.

As yet, no U.S. city has taken up Toronto's scheme of municipal federation to solve these problems, although attempts at federation go back as far as 1916. Federation, however, is simply one of many ways for achieving area government where annexation is impossible. In the U.S., it may well be that some other device—the use of authorities or the transfer to the county of certain municipal functions—may prove a more acceptable way to achieve the same ends. Miami, for instance, revived a proposal just this month to create area government through a strengthened county setup. But whatever course U.S. cities take, they are



Good an Answer Is It?

sure to be guided by Toronto's experience.

• **Compromise**—The Municipality of Metropolitan Toronto, which came into being on Apr. 15, 1953, and began to function at the start of 1954, is actually a political compromise. It represents a concession by the City of Toronto, which wanted to amalgamate the suburbs and city into one, and by the 12 suburbs that doggedly insisted on holding onto some of their local powers.

From 1835, when it was incorporated, until 1914, Toronto provided for expanding population by annexations—growing from 10,356 acres to 25,000 acres. But in the 40 years that followed the start of World War I, it annexed only 205 acres; strong opposition within the city kept it from gobbling up any big new areas.

The upshot was that Toronto's population changed hardly at all; in 1931, it was 627,231, little different from today. Meantime, the suburbs boomed around it—breeding bigger problems each year. Only Toronto, New Toronto, and Leaside had more than half of their total assessment in more profitable, nonresidential property. With little industry and commercial land to tax, the others faced a constant pinch in providing services for their growing population. Borrowing proved a poor solution. Strapped by limited credit, the municipalities had to pay as much as 5¾% for their money—more than they rightly could afford.

Inevitably, the suburbs that could not expand their services fast enough, simply stopped issuing new building permits. Or they confined them to higher-priced homes.

• **How It Started**—Finally, after years of agitation that something should be done, the tiny suburb of Mimico in 1947 asked that a city-suburb area be created for the joint administration of certain services. The City of Toronto countered by calling for amalgamation of the city and all 12 suburbs into one. These proposals went before the Ontario Municipal Board, a quasi-judicial body that controls the borrowing and zoning of all municipalities in Ontario and is responsible for settling disputes among them. The board threw out both plans, and without being asked for it, submitted one of its own.

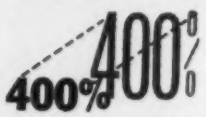
The existence of the Municipal Board—and the fact that its plan went before the legislative assembly with ministerial backing, rather than being put to the voters—explains to a great extent why federation succeeded in Ontario, where it has failed in the U.S. The board's proposal, which was largely the thinking of its chairman, Lorne R. Cumming, passed the assembly with only one significant change. This is what it did:

• **A New Level**—The City of Toronto and the 12 municipalities around it were bound together in one corporation, creating a new level of government, the Municipality of Metropolitan Toronto. The reins to this federation were put in the hands of a 25-man Metropolitan Council, made up of 12 representatives from Toronto, 12 from the suburbs, and one council-elected chairman. Council decisions were made binding on all the municipalities—except that each of them has the right of

FACTOGRAPHS

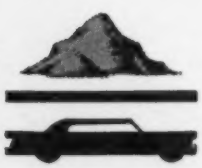
The Chemical Industry

NO. 1 OF A SERIES

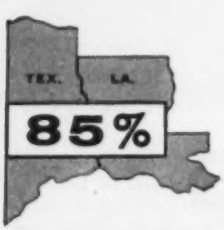


When you spread the figures before you and realize that the output of the U. S. chemical industry has increased more than 400% since 1940, you begin to understand the term . . a chemical age. Furthermore, estimates indicate another 400% increase by 1975.

Of course, petrochemicals are stealing the show right now. Back in 1930, petrochemical production amounted to less than 1% of total chemical production output. By 1953 the figure had grown to 25%. And according to the experts, by 1962 this lusty infant will account for 50% of the total U. S. chemical output.



You seldom think of chemicals in connection with automotive manufacture. But last year the automobile industry used $600,000,000 worth of chemicals. Every modern automobile requires 35 lbs. of sulfur. The filtering of molten sulfur by means of pressure leaf filters has greatly increased production efficiency and it is interesting to note that this operation was pioneered by Niagara Filters Division of American Machine and Metals, Inc. In fact, Niagara Filters are now used by the majority of sulfur processors.



Speaking again of petrochemicals . . 85% of all petrochemical production capacity is located in a 600-mile strip between Baton Rouge, La. and Brownsville, Tex. Perhaps that's one of the reasons why this area is such a good territory for several divisions of A. M. and M. De Bothezat Fans are used extensively here for the removal of corrosive and toxic fumes; Niagara Filters and Tolhurst Centrifugals for liquid-solid separation; United States Gauges for temperature and flow measurement; and Gotham Instruments for process control.

In the processing of chemicals . . . turning them into paints, fibers, plastics, building materials, and hundreds of other products . . . the chemical process industries show, for 1954, a capital expenditure of $4,134,000,000. That's 48.5% of the $8,525,000,000 total capital expenditure for all manufacturing during that year.

Each of the nine divisions of American Machine and Metals is a specialist in the design and manufacture of a product or a line of products. Some of them, like Tolhurst Centrifugals and Riehle Testing Machines, have been serving industry for more than 100 years. All of these divisions benefit from the interchange of ideas, experience, know-how and facilities of the entire group. It is an organization plan that has proved amazingly advantageous, not only for us but for the customers of all divisions.

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appeal to the Ontario Municipal Board.

These are the council's main powers:

Assessment. The Metropolitan Council has sole responsibility for assessing all taxable property in the area on a uniform basis. Tax collection is left in local hands, but each municipality must pay a proportionate share of the cost of the metropolitan government. The council has the power to issue debentures for its purposes and for local municipalities; all are based on the metropolitan area's credit at large, and all are a joint liability of the area and each municipality.

Water and sewage. The council has exclusive responsibility for supply and wholesale distribution of water; local councils retain powers to build local mains and fix retail rates. It has sole jurisdiction over the construction and maintenance of trunk sewer mains and sewage treatment plants.

Roads and transportation. The planning, building, and maintenance of metropolitan highways are under the control of the council; local councils retain their powers over local streets. Mass transportation is to be a monopoly of a Toronto Transit Commission, reorganized under the metropolitan corporation.

Education. The Metropolitan Council finances capital expenditures for school sites, buildings, and equipment. From legislative grants and metropolitan school taxes levied on a uniform assessment throughout the area, it supplies to the local school boards part of the annual cost of education.

Housing, health and welfare, parks, and planning. The Metropolitan Corporation has all the powers of a municipality in the housing-redevelopment field. It is responsible for certain health and welfare services—old-age homes, hospitalization of the indigent—for establishing metropolitan parks, and for area planning and development.

Fire and police protection are left in local hands; so are health clinics, off-street parking, civil defense, and the licensing of workers and tradesmen, such as cab drivers and electrical contractors.

The council has already asked the provincial government for these extra powers, and some municipal experts feel that whether or not it gets them will prove the real test of the metropolitan operation.

Nevertheless, Toronto right now has gone far beyond most areas in setting up control of essential services on a regional basis. How has its plan worked out?

• **Boxscore**—There is no way of measuring what would have been done had there not been a Metropolitan Corporation. But the general feeling is that much that has been accomplished in the last year would have been left un-

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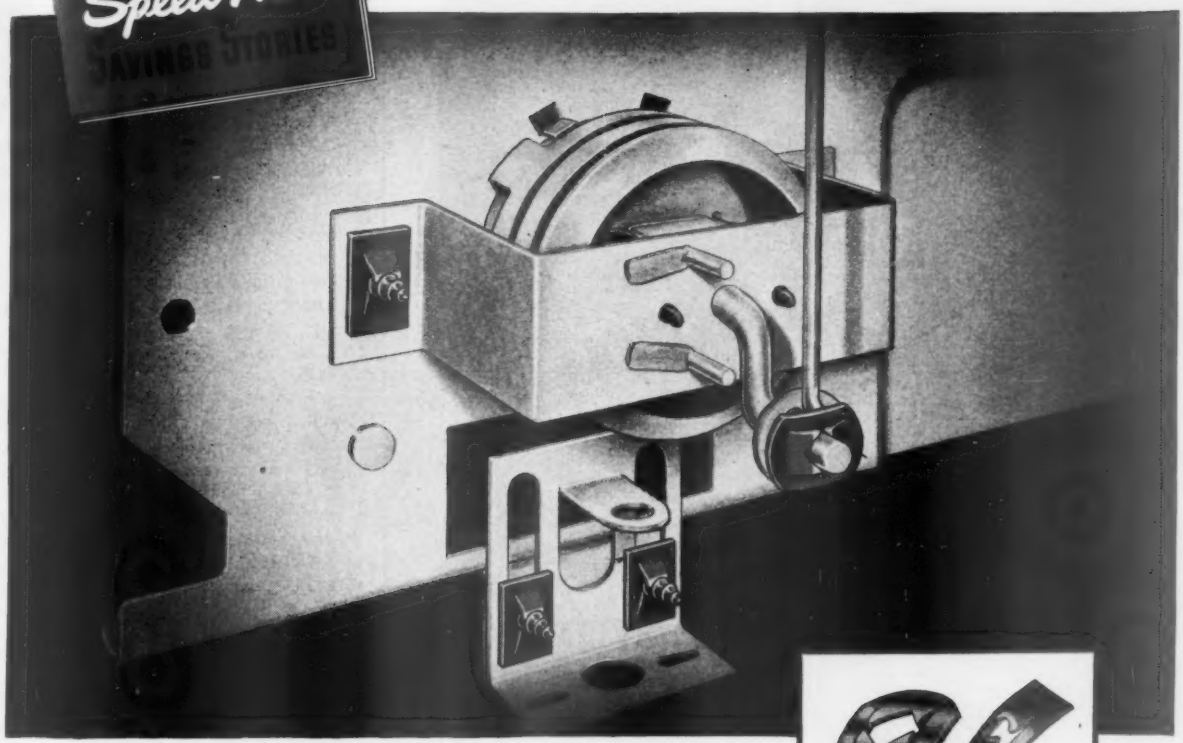

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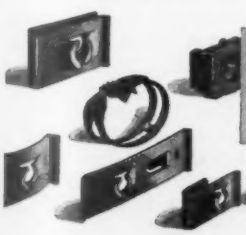

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touched had control remained solely in local hands.

This is what shows up so far:

• Work has started on a $50-million program to increase the pumping capacity of two water plants, modernize others, and build new mains.

• A $60-million project is under way to expand one sewage plant and to build another.

• Construction will start in the spring on a $50-million lakeshore expressway; Eglinton, a major east-west thoroughfare, is to be extended in a $9-million program.

• Work will begin in April on a 1,350 unit housing project, built in partnership with the federal government.

• The entire area has been reassessed, largely on Toronto's basis.

• The Metropolitan School Board, which operates under the council, started 29 new schools and 47 additions to old ones.

• The Metropolitan Corporation floated two debenture issues, amounting to $56-million, of which $44-million went to the municipalities. The interest rate figured out to about 3½%, well under what the individual townships would have had to pay.

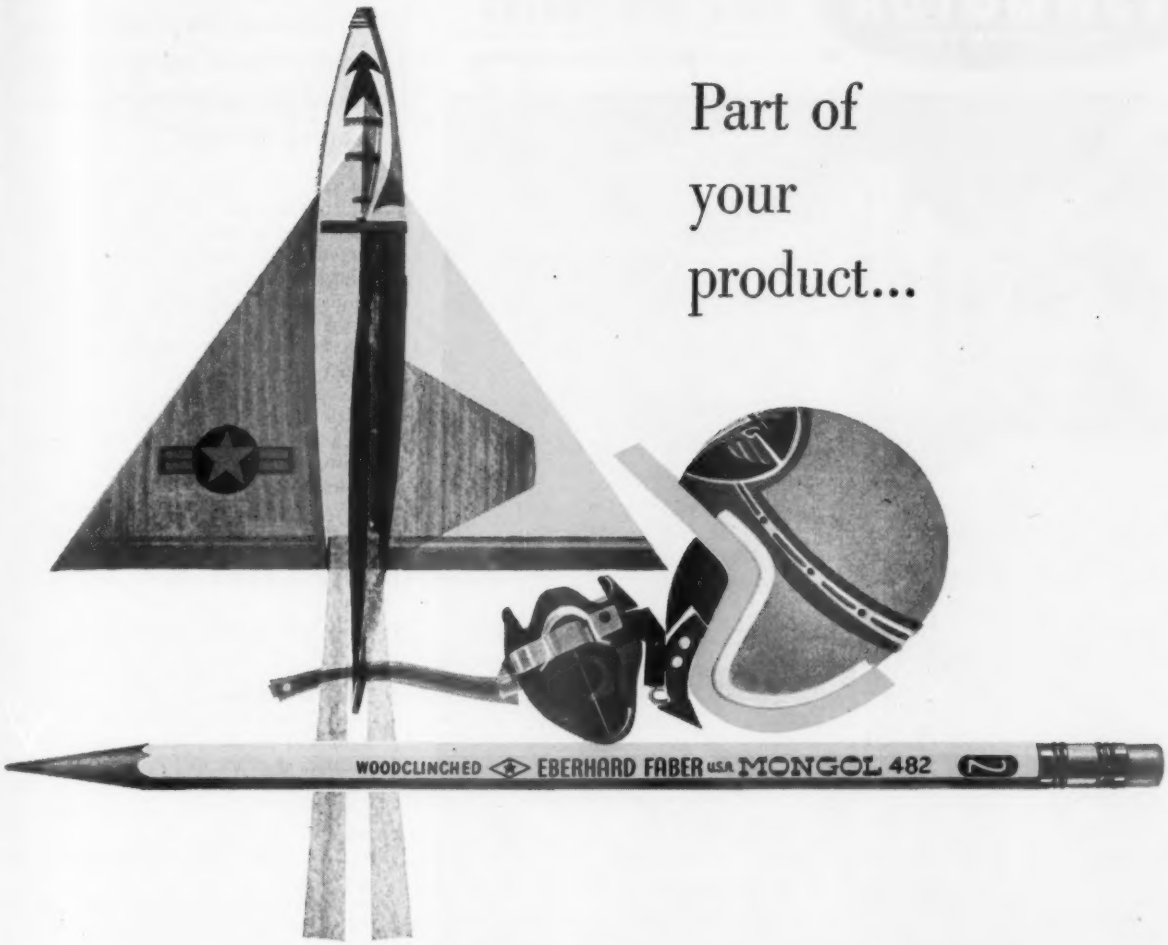
Frederick G. Gardiner, who last week was unanimously elected by the council for another term as chairman, feels that "Metro is certainly better than anything we've had before." Nevertheless, the plan has come in for sharp criticism right from the beginning.

• **Critics**—The Toronto Globe & Mail, commenting on Gardiner's 1954 report, gave mild praise to Metro's achievements, but called the organization "cumbersome and unwieldy, subject to serious delays and confusion."

Within Toronto, there is still strong support for amalgamation—and opposition to the federation idea. The city complains that with 57% of the people, it is paying 62% of the cost of the government.

The most widespread complaint of the suburbs is against the Toronto Transit Commission, which when it took over four privately owned suburban lines in July, set up a zone system and changed schedules and routes. Commuters who found themselves paying higher fares and walking farther to bus stops had little good to say about the arrangement.

The same sort of irritation shows up over rates for services, such as water, and over the cost of the operation. Where a suburb has a high industrial ratio, it is likely to feel that it can take care of itself. New Toronto, which had "everything it needed," considers it is putting "everything we have into a church poor box." Against this, of course, the have-not suburbs are delighted with the system.



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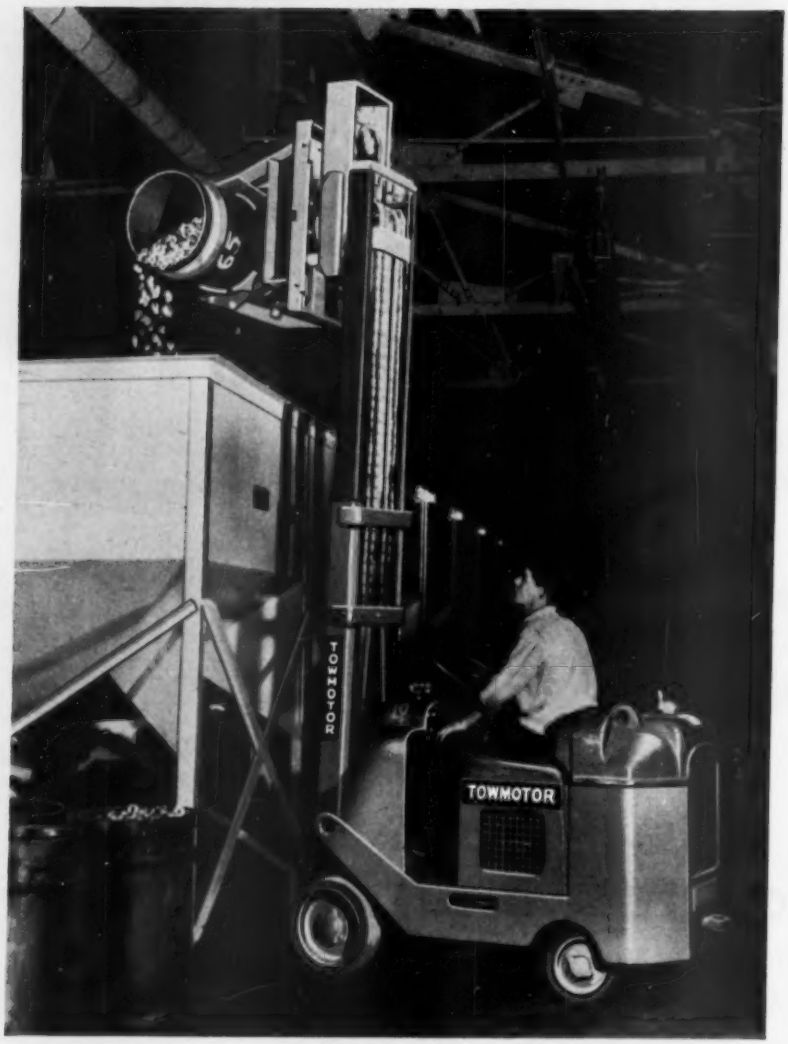

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Gas-Coal Peace

Embattled industries in Pennsylvania agree on proposed law governing underground storage.

Coal and natural gas, two years ago the bitterest of enemies in western Pennsylvania, have resolved their fight over the $125-million underground gas storage industry. They'll soon ask the Pennsylvania legislature to enact a broad regulatory law hammered out by both parties during months of negotiations. Even the United Mine Workers have accepted the package.

It's a pretty striking turn-around. Back in the 1953 legislature, coal men insisted on a flat ban on storing gas under coal. Gas men swore they would never submit to regulation administered by the State Dept. of Mines (BW–Apr.18'53,p112). Coal operators got a stringent bill through the lower house, but the gas people beat it in the senate. No legislation was enacted.

The new unity as the parties go to Harrisburg next week will probably insure the enactment of their program. Legislators who went through the 1953 fight will be overjoyed to find both industries at peace in 1955. And the new Democratic Administration that took office this week has problems enough without navigating the tricky political and financial shoals of the gas storage dispute.

• **Hard Facts**—The intransigence shown by both sides in 1953 flew in the face of these inescapable facts:

• Gas storage obviously could not afford even to endanger—let alone kill—a single coal miner.

• Coal mining couldn't afford to strangle the storage of gas, for about two-thirds of the state's supply now is imported from the Southwest by pipeline. The investment in home and industrial furnaces utterly dependent on a steady, even flow of gas is too great for coal to disregard.

Actually, the back of coal's resistance was broken by the grim economic fact that most of Pennsylvania's natural gas supply comes from the pipelines.

All during the inter-industry negotiations, which extended from late winter of 1953 to late fall of 1954, the more far-sighted coal leaders kept drumming away on the fact that regulated gas storage can only be helpful to coal. Here's how they reasoned:

Pipelines are so expensive that gas must flow through them constantly at capacity. Otherwise, pipelines can't support themselves. But when you're delivering so great a volume of gas 365 days a year it must have some place to

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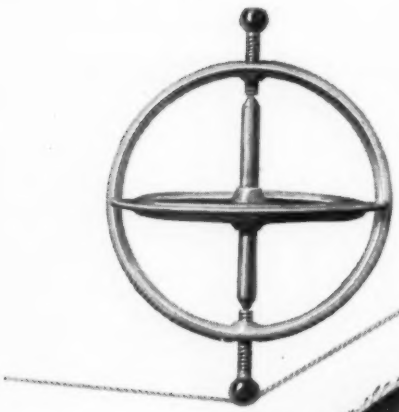

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Some of the first practical applications of the gyro were in instruments for airplanes. And while most Bendix Gyros today still find their way into commercial and military airplanes, they also do many other jobs—help point guns, stabilize aerial photographic platforms, direct and stabilize radar antennas and many others.

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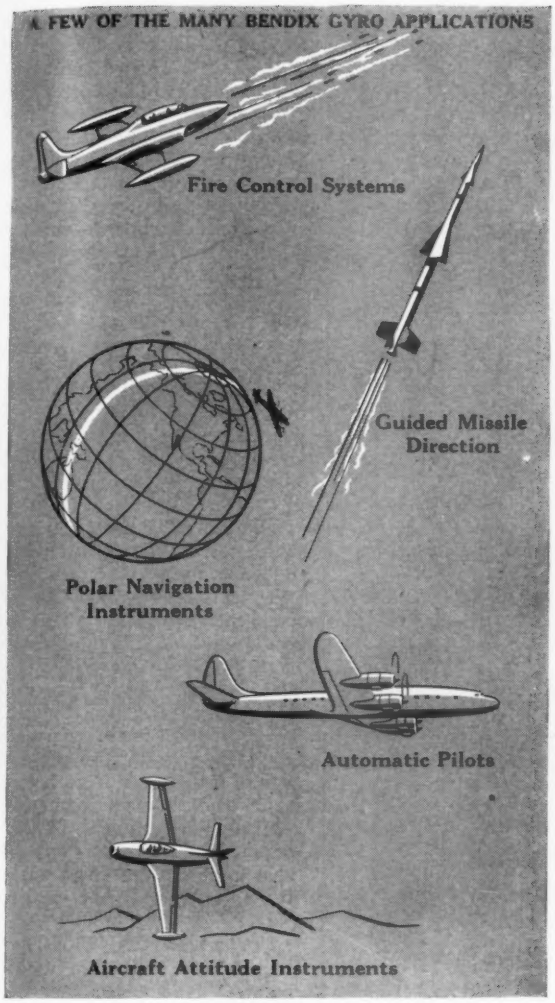
Developing and manufacturing gyros and gyro-controlled instruments for blind flight, automatic pilots and the famous Bendix Polar Path† compass which has made polar navigation practical, is another facet of the Bendix Aviation Corporation's diverse operation handled by our Eclipse-Pioneer Division, Teterboro, N. J. Contacting E-P will get you quick answers to problems involving aviation instruments and components.



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go. That's no great problem in winter. But summer demand is only a small fraction of winter peak loads.

Thus, if you deny summer gas storage, the fuel will flow at dump prices to the biggest coal user of them all—the electrical power plants. And it will flow at prices that can drive coal completely out of the market. Thus, proper storage not only solves the major problem of natural gas men—ability to carry winter peak loads; it also protects coal's best market.

• **New Name**—The legislation on which both industries have agreed will come in two packages. One bill would simply change the name of the State Dept. of Mines to the Dept. of Mineral Industries. That change would be implemented in the other bill by the establishment of an Oil & Gas Div.—with a deputy secretary to administer it.

The second bill also spells out the joint program. It provides what both industries have long wanted—a drilling and plugging law. This lays out broad requirements for well drilling, abandonment, and reconditioning for storage. Hereafter, everyone will know where wells are and what their status is. High safety standards will be enforced.

The law also gives gas storage operators the right of eminent domain to acquire wells for storage pool development. But they get it only when the company has acquired 75% of a gas sand that is at least 80% depleted. That protects the small gas operator whose holdings might be envied for storage.

• **Uncharted Wells**—Probably the major provision of the law is that which requires storage operators to operate their pools in such fashion that no gas can escape into coal seams. It absolves them from responsibility for acts of God or acts of non-gas people. But—and here was the gimmick that made the bill palatable to coal's die-hards—storage operators are responsible if gas gets into a coal mine through the acts of non-gas people if it results from from leakage from an uncharted well.

For above all, the coal operators demand complete safety from gas storage. They cite a hair-raising series of possible hazards from gas storage under coal. High on that list is the possibility of mining machinery cutting into an ancient well—drilled, say, three-quarters of a century ago and long since abandoned—perhaps even forgotten and hidden by the changes of time.

Candid coal operators conceded that even if such an uncharted well were to cause an explosion in a coal mine, they would probably never be able to prove it. But—by placing the responsibility on the storage operator—they figure they have written into a strict, comprehensive bill the last compelling re-

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You get exactly the right power for your job. All three great valve-in-head engines deliver gas-saving, hour-saving high-compression performance. Aluminum alloy pistons, all-weather ignition system, full-pressure lubrication, assure long low-cost life!

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Garage and stockroom floors in Burny Bros. large, modern bakery get daily scrubbing with a *Job-Fitted Combination Scrubber-Vac and Setol Cleanser* . . . .

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The *Scrubber-Vac* shown above is *Finnell's 213P,* for heavy duty scrubbing of large-area floors. It has a 26-inch brush spread, and is capable of cleaning up to 8,750 sq. ft. per hour! *Finnell* makes sizes for small, vast, and intermediate operations (available on lease or purchase plan) . . . also a full line of fast-acting cleansers. In fact, *Finnell makes everything for floor care!*

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quirement that gas men find every lost well.

• **Limits**—The bill affects gas storage only under or within 2,000 ft. of active coal mining operations. Storage operators under unworked coal get a long period of warning when a coal operator plans to move in over them. And coal operators get tight state control over one of the more dangerous aspects of storage—testing out a depleted sand to see whether it is suitable for development of a new storage pool. Both questions rated high among the bitterly fought points in 1953.

The coal operators made a major concession when they dropped their insistence on stipulated limits to which depleted sands could be repressurized. In 1953, they fought hard to limit repressuring. Gas operators fought the limit bitterly. The value of a storage pool is tied tightly to deliverability—not so much the amount of gas that a pool will hold, but the rate at which you can get it out when sudden surges of demand arise. Naturally, the lower the pool's pressure, the lower its deliverability.

Guessing is that the bill will encounter little real difficulty in the Pennsylvania legislature, and even win administration support. Coal people have an extra reason for hoping so. They would like to present the Pennsylvania law to legislatures in Ohio and West Virginia, where other widespread storage operations are conducted. And they would like to give it to the Kentucky legislature as well, when it meets in 1956.

Land Grant Minerals

In 1862, when the U.S. government made its original right-of-way grants to railroads in the West, it said nothing about mineral rights on the land—200 ft. on each side of the track, or about 50 acres to the mile. Two years later, federal policy changed and the mineral rights were specifically reserved to the government.

Last year, the Union Pacific got a Wyoming state permit to drill for oil on an 1862 grant. The federal government protested and the case went to court. Federal Judge T. Blake Kennedy in Cheyenne has just ruled in favor of Union Pacific, saying that if Congress had wanted to reserve mineral rights in 1862 it would have said so. The point at issue involves hundreds of thousands of acres.

Clearly, Judge Kennedy did not feel that the case was ended; he said that he felt that his greatest service had been to speed it on its way to a higher court on the expected appeal. The case, he added, "invades virgin legal territory."

Belt Bids Again

For the third time, Riverlake Conveyor is pushing law for a $300-million coal and iron carrier.

For the third time in six years, Riverlake Belt Conveyor Lines, Inc., is seeking permission from the Ohio legislature to build a $300-million-plus conveyor belt to haul iron ore and coal. The line, which would be by far the biggest ever built, would stretch 100 mi. from Lake Erie to the Ohio River.

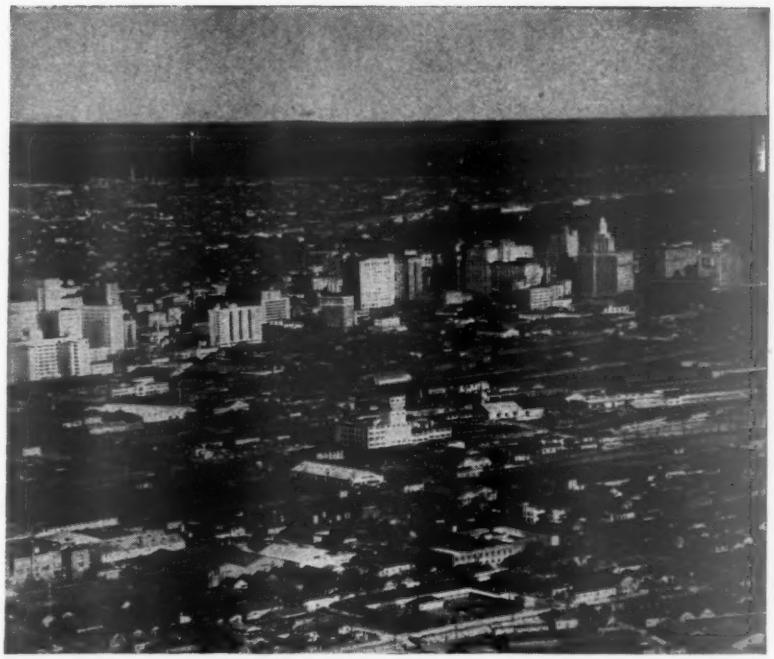
Bills that would make belt conveyor lines public utilities, give them the same rights as common carriers, and allow them to condemn lands for right-of-ways were introduced as the state legislature convened last week.

The first time the bill came up, in 1949, it was killed in the senate judiciary committee by one vote. In a second try, in 1951, the committee recommended it for passage, but the senate rules committee turned thumbs down.

Chief foes of the belt are the railroads and railroad brotherhoods, who contend that it would cut deeply into rail revenues and throw many railroaders out of work.

Outwitting Speeders

A 35-mm. camera with a stroboscopic flash unit helps this patrolman crack down on speeding motorists. Known as the Foto-Patrol, the device is inconspicuously mounted on top of a parked car, is tripped as the motorist speeds over two strips of tape stretched across the highway. The camera, tested last month in Washington, D. C., automatically records the offender's license plate.



Have you heard about the new New Orleans?

Business is booming in the nation's second port. Nearly 4,000 ships call each year to bring the world's resources to industry and carry industry's products to all points of the compass.

Since the war, there's been nearly $¾ billion of new and expanded industrial construction. Projects on the boards will bring the total well over the billion mark.

New Orleans Public Service Inc. is keeping ahead of industry's expanding power needs. Maximum net capability has been boosted to 415,000 kw—nearly 2½ times that of 1945. And, orders have been placed for another 102,000 kw generator scheduled for operation in 1957.

Rome Cable is playing a part in New Orleans' development by helping to supply the wires and power cables for dependable delivery of electrical power.

Years of experience, advanced engineering, rigid quality control have made Rome Cable a leader in the industry. Through applied research, Rome engineers have developed special wire and cable constructions for hundreds of applications.

To find out how these Rome services can help you specifically, let us send you "The Story of Rome Cable."

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COMPANIES

Waste Experts

Toledo contractors set up new division to specialize in curing problems of industrial pollution.

As U. S. industry grows, so will the problem of waste disposal. The small but progressive Toledo contracting company of Kaighin & Hughes, Inc., is getting ready now for the day when law and public sentiment crack down on industrial pollution of streams.

K&H announced last week that Edmund B. Besselievre, expert on sanitation and industrial wastes, will head its new Industrial Wastes Treatment Div.

"To our knowledge," says Lloyd L. Hughes, president of K&H, "no other company has gone into industrial wastes treatment on the scope that we have, covering every known type of waste problem. Nor has anyone else come up with a complete package deal like ours."

• **All or Part**—The new K&H division is prepared to take over a plant's waste problems entirely: study of the problem, recommendation of type of treatment, designing treatment facilities, building them, and instructing the plant's operators. Or it will give any part of this service. The company has drawn up 10 package deals to fit every foreseeable situation.

Of all the waste problems—including such tough ones as those of the fermentation industries, tanneries, steel pickling, and chemical plants—Besselievre sees only one that will give his staff any real trouble. That is the problem of radioactive wastes: the coolants used at reactors and the waste from radioisotopes used in medicine and industry.

"No one has come up with perfect solutions for that area yet," says Besselievre, "but otherwise we're all set to go. And with 10,000 manufacturing plants in Ohio alone, I think we can safely say that the field has a great future."

• **Size of the Problem**—Industry uses about 80-billion gal. of water per day, it is estimated. Of this amount, 55-billion gal. are put through processes that carry waste into streams and lakes. By 1975, U. S. industry is expected to be using approximately 135-billion gal. a day.

"There have been industrial waste headaches for decades," says Besselievre, who has already spent 30 years in that field. "But it is only in the last few years that industry has begun to feel,

. . . MALLORY 1000 METAL

AS the wrist moves, a tiny balance weight of Mallory 1000 Metal swings back and forth inside this dainty *automatic* watch and winds the spring.

Only by making this weight of Mallory 1000 could the watch be so small. Similarly, Mallory 1000 gyroscope rotors in automatic pilots make possible today's space-saving aircraft instruments.

The secret is the extremely heavy weight of Mallory 1000 Metal! It is an alloy of tungsten, nickel and copper with a density twice that of steel or brass. It has steel's strength and, unlike lead, it can be machined to precise tolerances so necessary in applications like the watch weight or the gyroscope rotor.

This unique alloy, a result of Mallory research and experimentation in the field of powder metallurgy, saves money as well as space. The Mallory "Contour Pressing" technique produces intricate shapes with precision and uniformity . . . materially reduces machining time.

Mallory 1000 Metal is also exceptionally valuable in the nuclear field as a radiation shielding material for such purposes as storage containers for isotopes, reactor shields, medical X-ray therapy equipment, and many more.

The development of Mallory 1000 is just one of the many advances which Mallory has pioneered in the fields of electronics, electrochemistry and specialized metallurgy. If your product touches on one of these fields, why not talk to Mallory?

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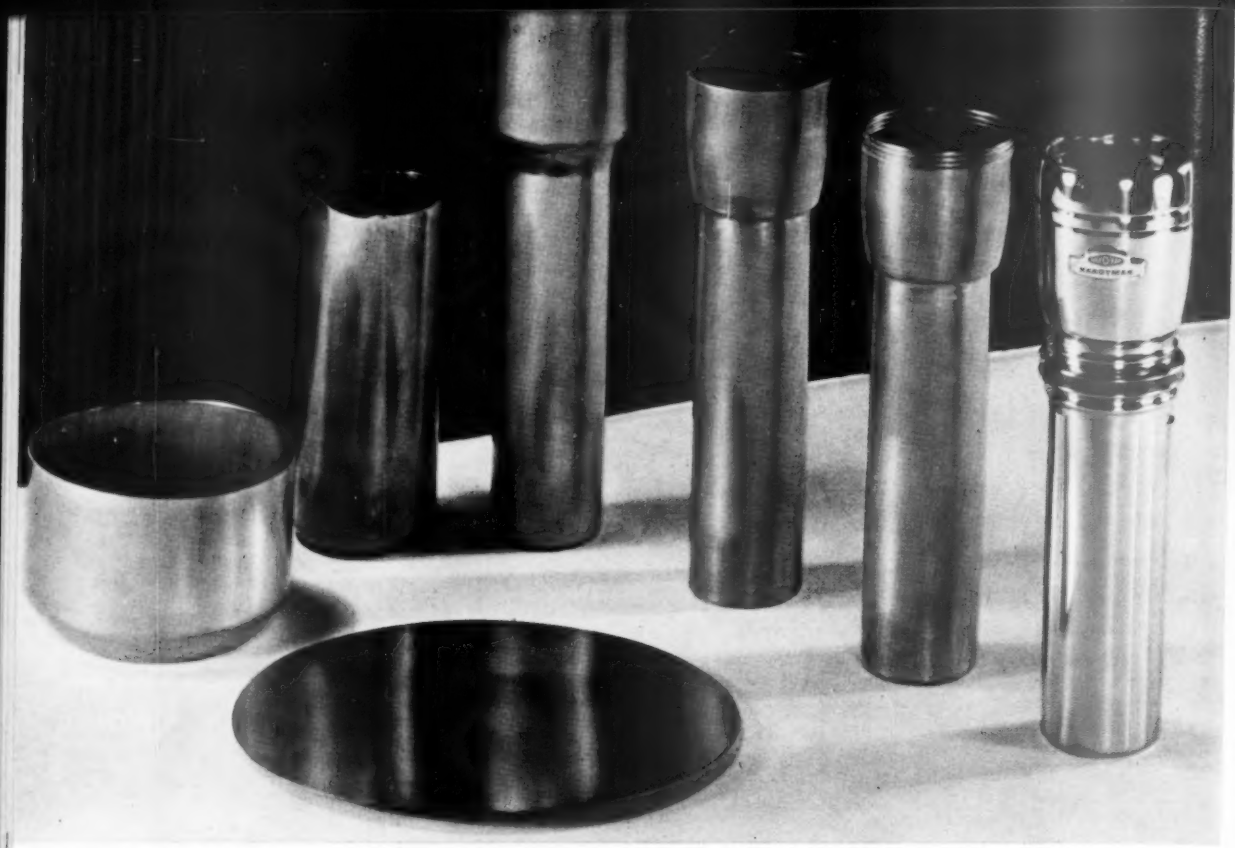


1. **The Evolution** of a flashlight, from electro-copper coated steel strip to finished product . . .

$100,000-A-Year Production Idea

Take a stroll through the Blake Manufacturing Division of Ray-O-Vac Company. Then you will understand how this firm arrived at its slogan: "Miracles in Metal."

In its plant at Clinton, Massachusetts, Ray-O-Vac produces the largest line of flashlights in the world, all of modern styles and designs, ranging from pocket models to five-cell spotlights and Hunter Lanterns. The volume moving off the production lines, wrapped and packaged for display, runs into the millions each year.

From start to finish, the plant is modernly equipped and efficiently organized. Through experience and ingenuity, it has developed production techniques that are in many ways unique. For example, take the manufacture of flashlight cases.

On models where brass traditionally has been most used, Ray-O-Vac is now making cases of steel. Because both types of cases are chrome finished, you can't tell a brass flashlight from a steel one by looking at it. They are both corrosion resistant, highly polished, and beautifully contoured.

But try standing on one. The brass case flattens out. The steel case doesn't. Ray-O-Vac has come up with a rugged product that gives it a quality advantage in competitive markets. The interesting fact is that it has done this with production savings that run from 17 to 29 per cent.

• **How It Was Done**—As in most worthwhile ventures, the transition wasn't made overnight. Blake Division engineers first began experimenting with plain drawing quality steel. The depth of the draw required for a flashlight case is an extremely severe one. No matter how they designed their dies or regulated the drawing cycle, they couldn't find a plain steel that would do the job.

Next, they called in the specialty strip men from Thomas Strip Division of Pittsburgh Steel Company. Thomas development engineers joined Blake's, and together they began exploring the possibilities of special drawing quality steel with an electrolytic coating of copper. The copper coating provides a good die lubricant and a good base for chrome plating.

One year and nine trial lot shipments later, they came up with the answer. Today, Blake is using .020 gage non-scalloping deep drawing quality strip steel produced by special processing techniques developed at Thomas, electro-copper coated on both sides, $6\frac{9}{16}$ inches wide in 450-pound coils.

This may sound complicated, but specialty strip steel such as this is the forte at Thomas, and they can produce it with consistently uniform quality that gives Blake a maximum yield from every coil.

• **In Production**—To watch these coils of electro-copper coated strip become flashlight cases at Blake gives you the impression that if there is nothing miraculous involved, at least the engineers were closely akin to technical wizards.

The coils are fed into a double action press. It cuts a round blank from the strip that is 6.398 inches in diameter. From there, in a series of four drawing operations without annealing, this round, flat disc of cold steel becomes a single-piece flashlight case $7\frac{1}{2}$ inches long with a battery case diameter of 1.517 inches

2. Begins at this double action press that blanks out a circular disc and draws it into the shape of a cup.

3. The Cup Becomes a Tube as the cold steel flows under tremendous pressure, then shaped into a...

4. Flashlight Case on a horizontal press that also forms the flashlight head.

and a formed head with a diameter of 1.945 inches (photo No. 1).

As the first press has a double action (photo No. 2), it also makes the first draw. Here's where the "Miracles in Metal" begins as the steel flows under tremendous pressure, producing a smooth-surfaced and even-edged cup 3⅛ inches deep with a base diameter of 3.480 inches. The redraw press (photo No. 3) makes two draws with the maximum reduction on each. It turns out a closed end tube 5 inches long and 1.954 inches in diameter.

The tube is then fed to a horizontal redraw press (photo No. 4) that makes a further reduction, forming the cell case and head. The head is trimmed, shaped, roll threaded and knurled. Finally, the case is given a heavier copper plating, buffed and polished, chrome plated, then delivered to the assembly lines (photo No. 5).

Compared to the fabrication of cases with brass, electro-copper coated strip is fabricated more rapidly and requires less processing. Two annealing and pickling operations and one redraw have been eliminated. Fewer tubes need to be stocked ahead of press operations. From the first press through the last forming operation, Blake's equipment produces steadily at a rate of about 1,400 pieces an hour.

• **The Pay-Off**—Savings, including the lower initial cost of electro-copper coated steel strip compared to brass, range from 3 cents to 6 cents per flashlight case on models produced from steel. On three popular models alone, these savings amounted to more than $100,000 last year.

Add to this the important fact that Ray-O-Vac is building a better quality flashlight with advantages that increase sales, and the slogan "Miracles in Metal" takes on increased significance.

If you are fabricating products from more expensive metals, why not consider the use of Thomas precoated strip steel? Perhaps you can accomplish similar savings and improve your product.

Thomas strip begins with good steel of correct analysis in a variety of tempers. It is cold rolled to exacting tolerances. Then it can be coated electrolytically with zinc, lead alloy, copper, brass, nickel or chrome . . . hot dip tin and lead alloy coated . . . or lacquer coated in different colors. It offers the luster of planished or buffed finishes. Altogether, Thomas produces the widest range of strip steel specialties in the industry.

Thomas Strip is more than a product, it is a production idea. Why not call a representative to discuss your problems with you and offer suggestions. You will find him ready to give you prompt, personal service without obligation. *Write for descriptive literature.*

5. Finished cases receive a chrome plating. Assembly of switches, lens rings, springs, caps, etc. is done on one of eight lines such as this, producing at rates up to 30,000 packaged flashlights a day.

"Everything New But The Name"

Thomas Strip

Division

Pittsburgh Steel Company

Grant Building • Pittsburgh 30, Pa.

DISTRICT SALES OFFICES: Atlanta • Chicago • Cleveland • Columbus • Dallas Dayton • Detroit • Houston • Los Angeles • New York • Philadelphia • Pittsburgh San Francisco • Tulsa • Warren, Ohio. **PLANTS:** Monessen, Pa. • Allenport, Pa. • Akron Los Angeles • Unionville, Conn. • Warren, Ohio • Worcester, Mass.

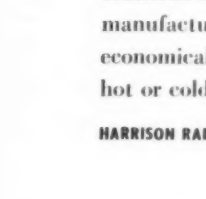
PRINCIPAL PRODUCTS: Hot and Cold Rolled Strip and Sheets • Strip Specialties • Seamless Tubular Products • Wire and Wire Products • Chain-Link Fence • Cargotainers • Steeltex

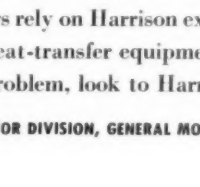
HOT or COLD...

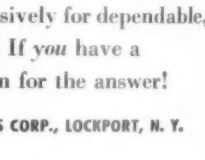
HARRISON HAS THE ANSWER!

Fiery heat or frigid cold—Harrison's in complete control! And we prove it . . . *in advance!* In Harrison automotive research laboratories, wind velocities range up to 100 miles per hour . . . temperatures from a bitter sub-zero to a scorching 100 degrees! Radiators, air conditioning systems, heaters and defrosters—all Harrison products are tested under the most punishing temperature conditions—*hot* or *cold!* That's why Harrison is a leader in its field—that's why so many manufacturers rely on Harrison exclusively for dependable, economical heat-transfer equipment! If *you* have a hot or cold problem, look to Harrison for the answer!

HARRISON RADIATOR DIVISION, GENERAL MOTORS CORP., LOCKPORT, N. Y.







TEMPERATURES MADE TO ORDER

HARRISON

in a big way, the muscle behind the various antipollution laws that have been passed."

He notes that it took nearly 50 years for the federal government to pass an effective antipollution law: the Water Pollution Control Act of 1948. With that on the books, and the 48 states getting tougher about pollution too, a manufacturer has to be concerned about his waste problem, no matter where he does business, Besselievre says.

"That's where we come in," he says. "We hope to set the pace in licking the problem. This thing has become an economic matter now, and I think most firms realize that they may get away with doing a little less if they do it voluntarily, instead of bucking public or legislative pressures."

• **Economic Payoff, Too**—Besselievre plans a two-way approach to industries in selling waste treatment service.

"We'll appeal to their civic responsibility," he says, "and, frankly, we will remind them of the penalties that may hang over their heads if they go on polluting streams. Industrialists have come to realize they do have a stake in keeping the streams clean, but it is often difficult to get them to do anything about it—they hesitate to spend much money on an operation that, as far as they can see, adds nothing to their output."

That brings in K&H's second selling point. The company says that proper treatment of industrial wastes often results in (1) better housekeeping habits around the factory, (2) new—and often cheaper—ways to make a product with less waste, and (3) savings through reuse of waste materials in some byproduct process.

About the only limit K&H sets on its industrial waste treatment service is to rule out municipal work. Says Besselievre, "I've worked long enough with municipalities to know that you might wait 10 years before you start getting paid for a job such as a treatment plant."

• **From a Small Acorn**—In 15 years or less, K&H has grown from a little heating and piping shop to a multimillion-dollar business that's only relatively small in the mechanical contracting field. The growth started in 1940 when the shop got an $18,000 job for a steam line at the Goodyear Tire & Rubber Co. in Akron.

Just about this time Goodyear was going into the synthetic rubber business in a big way, and K&H was there to design and build its first butadiene plant. K&H built several more synthetic rubber plants, then branched into designing and installing all kinds of intricate piping and process equipment in refineries, chemical plants, steel mills, and atomic energy plants.

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FOR EXAMPLE: One year after they were introduced by Dow Corning, release agents made with our silicone fluids were almost universally used in the rubber industry to reduce scrap, improve finish, cut mold maintenance costs by as much as 90%.
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Reliability and accuracy of automobile and aircraft instruments, overload relays, circuit breakers, torsional vibration dampers have been increased by Dow Corning 200 Fluid as a damping medium.
As a water repellent treatment for vials and bottles, Dow Corning 200 Fluid cuts waste, makes dosage of rare antibiotics more accurate.
Pour point below —60; flash point above 575 F.
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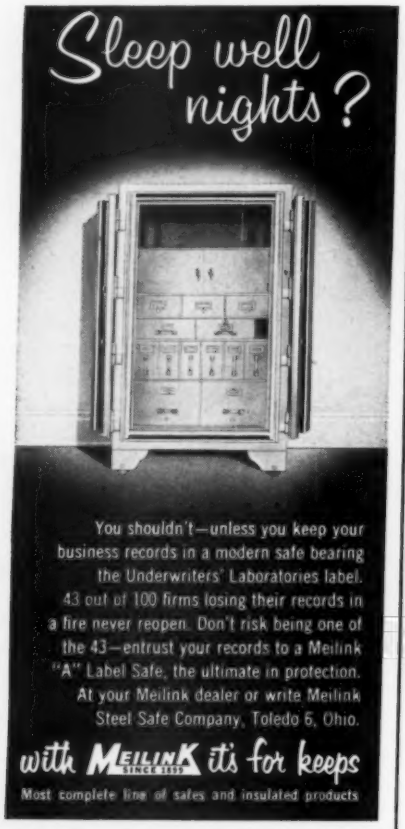
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You shouldn't—unless you keep your business records in a modern safe bearing the Underwriters' Laboratories label. 43 out of 100 firms losing their records in a fire never reopen. Don't risk being one of the 43—entrust your records to a Meilink "A" Label Safe, the ultimate in protection. At your Meilink dealer or write Meilink Steel Safe Company, Toledo 6, Ohio.
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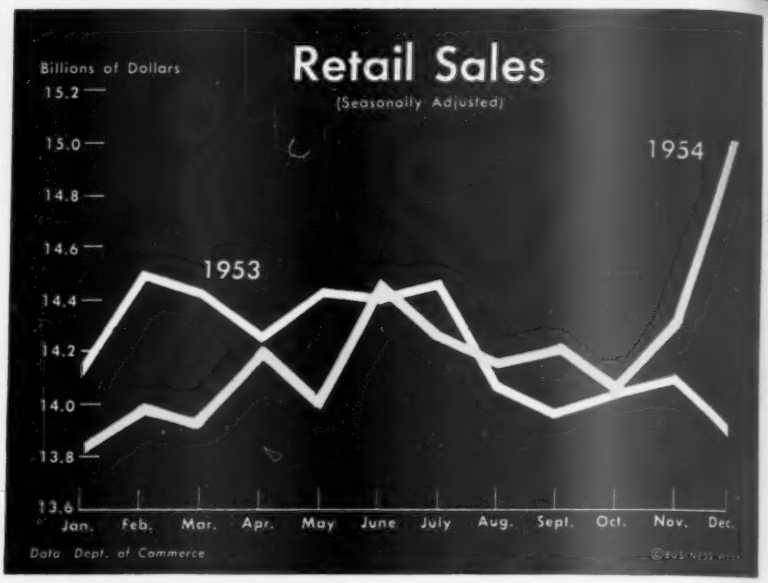
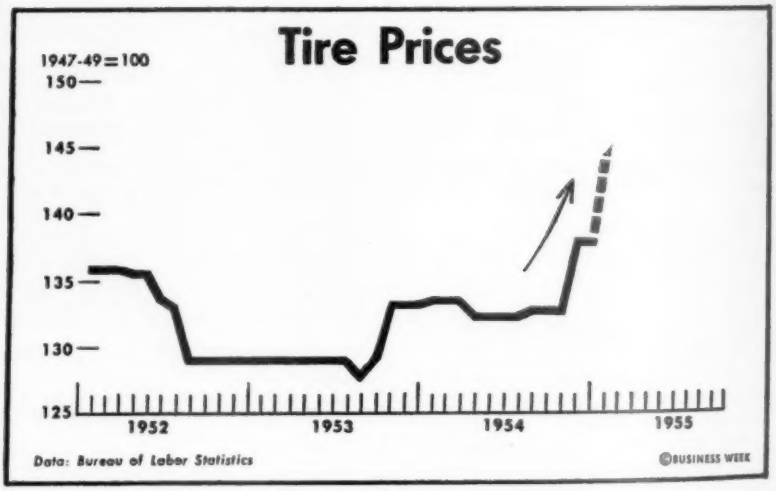
CHARTS OF THE WEEK



1954 Catches Up with 1953

Record retail sales of around $18-billion (before seasonal adjustment) in December, 1954 brought the total for the year to about the same figure as 1953, though they had lagged behind for most of the year. Up to Nov. 30, 1954 sales were still 1% behind 1953.

December sales, far above expectations, may top $15-billion after adjustment for seasonal variation; they are now estimated as much as 9% above December, 1953. Gains in automotive and gasoline service station sales played a considerable part in the rise.

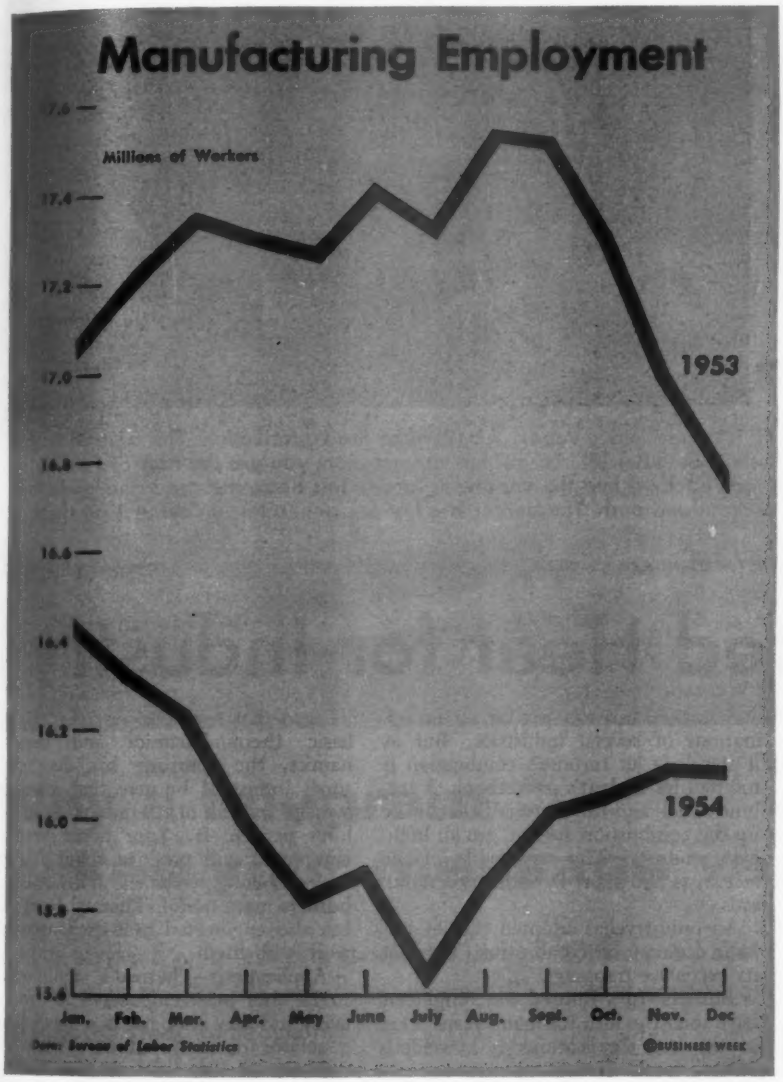


Another Upward Move

Tire prices have increased 5% since the first of the year. This comes on top of a 4% increase from October to November. Prior to that prices moved side-

ways for several months.

Higher rubber costs and anticipated improvement in demand caused the rises. The price of natural rubber climbed 75% in 1954 (BW—Nov. 13 '54, p100), and still remains high.



Reverse Patterns Give Same Result

Last year, manufacturing employment declined about 2% from January to December, just as it had done in 1953. The spread from January to December in each of the two years was some 650,000. However, this does not mean a continuing decline. That's because in 1953 manufacturing employment reached its peak in August—a record—then dropped off sharply in the final quarter. The 1954 curve generally reversed this movement. There was a steep decline to match the 1953 increase, and a year-end recovery where 1953 was receding.

Manufacturing employment in durable goods industries rose slightly in December of 1954. This is the segment of manufacturing employment that had slipped very sharply the year before.

Dripping grease costs you money!

You're not getting maximum efficiency or economy of operation if your materials-handling equipment leaves a slick trail of grease like this.

Bassick "3D" casters with sealed bearings eliminate these hazardous floor conditions, offer longer trouble-free service life, and eliminate maintenance problems.

Grease lost from bearings exposes them to premature wear, which increases your maintenance and repair problems. Dripping grease is also costly due to its harmful effect on floor surfaces and rubber tires.

Bassick's new "3D" sealed casters assure the sealing-in of lubricants while protecting the bearings by excluding harmful dirt, water and other foreign matter.

"3D" Caster

(No Dirt, No Drip, No Drag)

New design seals grease in, keeps dirt out.

Write for Catalog Sheet 3D99-53. Find out how "3D" casters can cut your maintenance costs. THE BASSICK COMPANY, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

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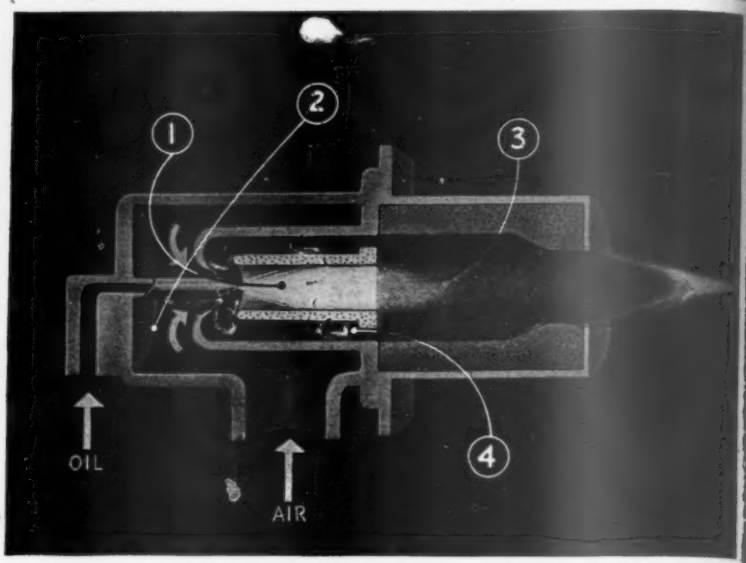
MAKING MORE KINDS OF CASTERS...MAKING CASTERS DO MORE

75 YEARS OF CASTER LEADERSHIP

The jet turbine concept of releasing tremendous heat in a small space gave industry the idea for this cheap but sturdy burner.



Incoming fuel (1) is turned into a vapor. Air (2) helps the vaporization. The mixture burns fast in a combustion chamber (3). To get full vaporization, you use the trick of feeding a little of the hot gas back (4) into the vaporizing area. This heats the area and gives the fuel-air mixture an added push. The burner is a hot-gas generator; it does not produce a true flame.

©BUSINESS WEEK

Concentrated Heat for Industry

Scientists and engineers have done a tremendous amount of work, over the past 10 years, with new techniques in burning fuels. Most of their work has been aimed at the goal of making airplanes and rockets fly faster. Now, as this illustration shows, industry is picking up some of the techniques for its own use.

The device pictured on the right, developed by Thermal Research & Engineering Corp., of Conshohocken, Pa., is an offspring of the aircraft jet engine. It has already made itself useful in the steel and chemical industries. It has helped one company solve an air pollution problem; and it might shortly go to work in the power plant of a U.S. Navy destroyer escort.

Its product is heat. Its special value is that it produces a tremendous amount of heat in concentrated form.

• **Best Part**—To those outside aviation, the jet aircraft engine—a special kind of gas turbine—has seemed attractive for two reasons: A simple engine, the jet packs a lot of power (or thrust) into a neat package. Too, the combustion of fuel and air inside the turbine releases tremendous heat in a small space.

That combination of increased energy and smaller area can pay off in the operations of several industries. But as it stands, a jet turbine's combustion is too rich for a plant's pocketbook. A turbine's fuel, and the materials that make up the combustion system, are all high-cost products. The service life of the system is also short by industry's standards.

So industry has adopted the jet turbine concept of combustion, but not its expensive trappings.

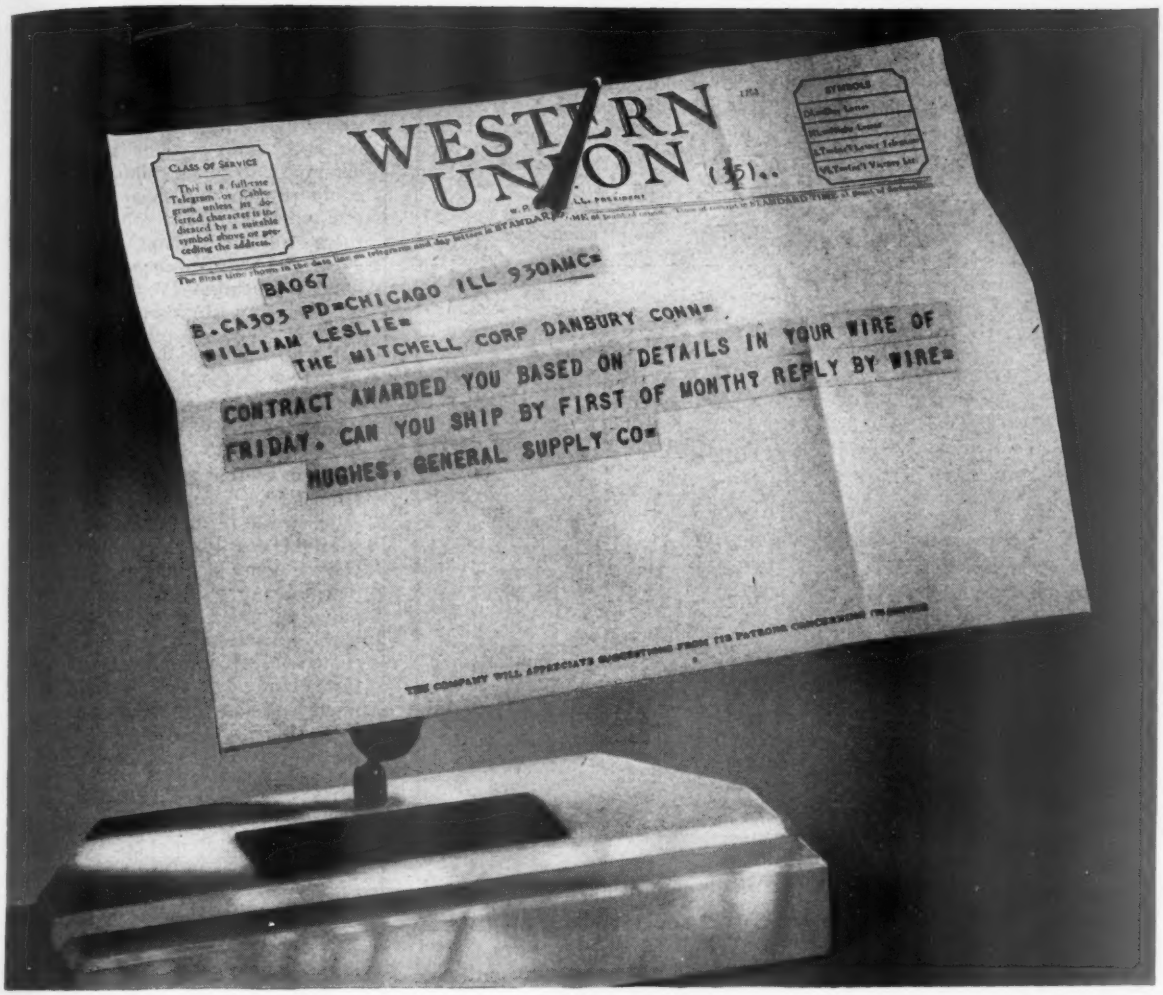
• **Burners**—In a limited way, engineers have used the idea for many years. One of the best applications is a welder's cutting torch. It uses a burner the size of your thumb, burns a mixture of acetylene and oxygen. For a vital job such as cutting a sheet of heavy steel, the device is practical and economical.

But take the amount of heat that's needed to melt a bath of steel. An engineer couldn't enlarge the torch burner and apply it to an open-hearth furnace; fuel costs and consumption would be sky-high.

With the jet turbine concept, however, it's possible to use cheap, everyday fuels and equally cheap burners that have a long service life. Thermal Research & Engineering is the first in its field that has done just that. Using basic thermodynamics and aerodynamics, the company has developed small industrial burners that have an average output of 10-million Btu. per hour per cu. ft. Your home heating equipment will produce about 10,000 Btu. per hour per cu. ft. To make the burners more useful, Thermal Research has also engineered heat exchangers to work with them.

• **Applications**—Thermal's equipment, so far, has been engineered for nearly every industry that needs a small heat generator of high output. Here are different applications in four diverse fields:

Steel: Thermal's concept has helped make continuous casting a success at Atlas Steels, Ltd. There, the idea was to keep a ladle full of steel in a molten state while the steel poured into a casting machine. One way was to wrap an electric induction heater around the ladle. But the heater's cost would nearly have matched that of the casting machine. And its power consumption would have been too high for economy. So Atlas simply mounted a Thermal burner on top of the ladle. That gives more heat than the steel needs. And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YOUR MESSAGE on a telegram stands out like a match in the dark. It says, "I'm important!" in a voice too urgent to be ignored.

Note the "Reply by Wire". It's a request that won't be missed... won't be forgotten... when 2-way speed is a *must.*

No wonder busy executives use telegrams to make sales, close deals, arrange appointments, submit prices and above all, to get facts straight . . . whatever their type of business.

Isn't it time *you* made telegrams a habit?

when it means business **it's wise to wire**

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GET THE ANSWER . . . GET IT FASTER!

Always ask for a reply by wire. You get telegraphic speed both ways.

"I just thought of a way to get over a Cyclone Fence—if we had a few other fellas"

● Countless burglars have found that it's easier to earn an honest dollar than it is to get over a Cyclone Fence.

Even the most ingenious burglars are thwarted by Cyclone Fence. That's one reason why it is the most widely used property protection fence in the entire world.

You *can* buy cheaper fence than Cyclone, but it will cost more in the long run. Cyclone contains nothing but brand-new, top-quality material. The chain link fabric is woven from heavy steel wire — galvanized *after* weaving to prevent cracks that encourage rust. Erection is handled by full-time, well-trained experts, so you can be sure of a fence that stays taut and trim.

Cyclone engineers will be glad to help you solve your fencing problems. Meanwhile, *send for the free booklet.*

CYCLONE FENCE DEPT., AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL CORPORATION
WAUKEGAN, ILLINOIS • SALES OFFICES COAST-TO-COAST • UNITED STATES STEEL EXPORT COMPANY, NEW YORK

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UNITED STATES STEEL

the velocity of the hot gases causes a stirring action in the bath—which is a must.

Chemicals: Allied Chemical & Dye Corp. has a processing plant whose various operating stages need high heat, but not steadily or all at the same time. Thermal designed mobile heating equipment for the plant. Now Allied can wheel a burner around wherever there's a quick demand for heat.

Air cleaning: Another processing firm, Quaker Chemical Products Co., let a waxy gas, a waste byproduct, go up its chimney. The gas caused an offensive odor in the atmosphere around the community. Local authorities slapped an injunction on the company, ordered it to clean up its exhaust, or close down the plant in 30 days. Thermal killed the odor by reburning the gas at a high temperature, using a gas generator located in the plant's stack.

Ship propulsion: Right now, the Navy is planning a new destroyer escort that will use a special kind of gas turbine engine called a closed-cycle turbine. Fuel burning in a Thermal exchanger heats compressed air passing through it. The heat expands the air rapidly; the air runs the turbine, which spins the ship's propellers. Afterward, the air is cooled, then compressed and heated all over again. By separating the burning fuel from the air in the heat exchanger, engineers prevent fuel impurities from reaching the turbine, where they can corrode the turbine blades.

• **Theory**—Since the introduction of jet planes and guided missiles, combustion has become one of the most researched techniques. It has been wrapped in military security. Research projects—those carried on by military groups, the National Advisory Committee for Aeronautics, and private foundations such as Battelle Memorial Institute—have gone into the pure theories of burning a fuel.

The pure research into combustion has lead to some highly complex theories. Your success in getting efficient combustion depends partly on knowing the origin and chemical make-up of the fuel you are burning.

Say you are burning one of the various types of fuel oil in a fluid state. The oil squishes out a nozzle, and its droplets immediately ignite. As a droplet burns on the outside, it will heat up at its center. The heat is great enough to make part of the droplet chemically "crack," and break up into carbon and other combustible byproducts. That chemical cracking slows up the rate of combustion. It causes a big bright flame whose heat is thrown off mostly by radiation.

The radiation is useful, and efficient by some industrial standards. A present-day boiler for a power plant needs

radiation so that its big surfaces can pick up heat in order to make enough steam.

• **Controlled Explosion**—To get a higher than average heat, Thermal turned to thermodynamics and aerodynamics in its developments. As the illustration on page 86 shows, the key to the burner is that it turns the liquid fuel into a very fine vapor. That's because a fuel has a higher rate of heat release when it's a vapor instead of in liquid form.

Inside the burner, heat does the vaporizing job. There is a special design called a venturi, which causes a pressure drop in the end of the burner where fuel and air mix. Compared to the higher pressure in the combustion chamber, this has the effect of a suction. The suction bleeds a little hot gas out of the chamber and back into the mixing end. The hot gas heats up this end and makes the liquid become a vapor. What's more, the vapor burns fast in a small space. That forces it out of the burner at a high rate of speed—about 500 ft. per sec., and sometimes up to 1,500 ft. per sec.

Thermal's engineers like to call their burning technique a controlled explosion, a kind of combustion that falls just short of a detonation.

• **Problems**—The burner that does the job is actually a hot-gas generator. As a generator, the burner caused some problems when Thermal first tried marketing it. The combustion takes place inside the burner, not in the open like that of most other industrial gear.

In other words, most industrial heating works on the principle of radiation. The insides of a boiler must be able to see the flame in order to pick up its heat. But a bank of boiler tubes couldn't get a good look at the flame of a Thermal burner.

• **Convection**—That drawback first hit home when Thermal sales engineers began knocking on customers' doors. They first took a crack at burner replacement in the boiler market. But the results were mixed, although there were more successful installations than failures. Besides, that type of installation was a waste of a good idea. Some manufacturers were anxious to revamp their equipment to suit Thermal's idea. But that would take time. And the modifications, they felt, were a little risky design-wise.

Thermal finally decided that it should specialize in the principle of heat convection, engineer its equipment around that. Convection is a transferring operation. You carry heat from its source to the place where you put it to work, through a moving medium such as a gas or a liquid. In a convection problem, two important factors are temperature and velocity of the medium. And Thermal's combustion method has

. . . into your pocket

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giant step in electronic growth!

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Transistors, scarcely larger than the buttons on your shirt, have already replaced vacuum tubes in many industrial and military applications. Until recently, the miraculous midgets have been too few and too expensive for use in reasonably priced consumer products. Now, unique transistor production techniques developed by Texas Instruments have made possible mass production of the revolutionary transistor radio . . . already on retail sale across the nation!

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plenty of both; its own hot gas can be used as the convection medium.

Not all of Thermal's industrial jobs depend upon convection, "piping" heat from one point to another through a moving medium. But all of the applications at least use heat moving at high speed. More complex installations, like piping jobs, use heat exchangers. Their operation is similar to that of a domestic hot-water radiator working in reverse. If you held a blowtorch against it, the radiator would transfer heat to the water inside, and the water could carry the heat to a place of work.

Wiring Aid

Chicago utility offers free installation as part of a program aimed at home electrical safety.

Commonwealth Edison Co. of Chicago, which sells power to 600,000 homes, has come up with one of the biggest, most persuasive campaigns for safe home wiring to date. Working locally through electrical contractors, Commonwealth has agreed to install free all outside wiring needed to take care of any modern range, clothes drier, air conditioner, auxiliary heater, or water heater.

The National Adequate Wiring Bureau says that there are 20-million U.S. homes in which the wiring is both inadequate and unsafe.

In addition to outside wiring, the company will help in the financing of heavy-duty inside switches, special circuits for appliances, and any other inside wiring that the customer wants—up to $100 worth.

• **Reasons**—Here's the point: The appliances listed by Commonwealth all run on 240 v., require an outside cable carrying not two, but three wires. According to NAWB, the power supply in the 20-million suspect homes is 120 v., and comes in on only two wires. This was barely adequate before the advent of modern washing machines, clothes driers, and electric ranges. When people began to add one appliance after another, they were asking circuits to carry more power than the wires could safely manage.

Fuses are designed to prevent trouble in such situations. They burn out safely before overloaded wires have a chance to start a real fire. But homeowners often ignore the warning of a burnt-out fuse; they simply replace it with a bigger one. That's when trouble really begins.

The only answer to increased power use, Commonwealth says, is better wiring. A 240-v. outside supply, such as

The best glue for any boat!

What's the best glue you can buy? Good question. When you're preparing to invest hundreds of hours assembling your "dream boat" with painstaking care, only the best will do. And *Elmer's Waterproof Glue* is the only wood glue packaged for home use that meets U.S. Military specifications for waterproof glue. Nothing bothers it . . . including cold or boiling water, extreme temperatures, mold, solvents, mild acids and alkalis and continuous outdoor exposure. Thousands use it every day in boats, outdoor furniture, sports equipment and wherever a strong, durable glue bond is wanted.

Elmer's Waterproof Glue has won a place in industry, too. There, under the name of *Cascophen*, it is used in quantity by large boat builders and other manufacturers requiring waterproof, weatherproof wood glue joints. You may be among these. If so write for further information about *Cascophen*. But in any event pick up a can of *Elmer's Waterproof Glue* at your hardware or marine supply store. You'll find it mighty handy around the house. The Borden Company, Chemical Division, Dept. BW-15, 350 Madison Avenue, New York 17, New York.

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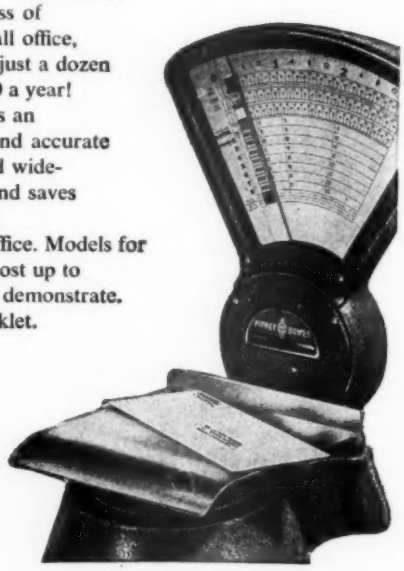
With an inaccurate mailing scale, you frequently *over*pay postage, wasting money... or *under*pay, resulting in "postage dues" and loss of customer good will. Even in a small office, the overpayment of 3¢ postage on just a dozen letters a day may waste nearly $100 a year!

A PB precision mailing scale has an automatic pendulum action, fast and accurate ...with a big hairline indicator and wide-spaced markings, easy to read...and saves time as well as postage in mailing!

PB scales pay their way in any office. Models for all kinds of mail, including parcel post up to 70 lbs. Ask the nearest PB office to demonstrate. Or write for the free illustrated booklet.

FREE: *Handy chart of Postal Rates with parcel post map and zone finder.*



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PITNEY-BOWES, INC.
1462 Pacific St., Stamford, Conn.
Originators of the postage meter ...offices in 93 cities

Special drive engineered by **Sheppard**

powers new G-E mine locomotive

Sheppard 20 H.P. DIESEL with torque converter transmission

This complete unit, measuring less than 46" overall, was developed by Sheppard to meet the special power needs of a new General Electric Mine Locomotive. With it the 4 foot trammer can start and haul, at efficient speed, 100 ton pay loads.

Complete Power Drives Engineered to meet your special requirements

Sheppard welcomes special power applications...will work with you to engineer a complete power plant including drive or other special equipment. Write today.

Mail Coupon for complete Model 17 specifications

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Send Sheppard Diesel Model 17 literature to
Name _____
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Address _____
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Power Units • Generating Sets • Farm Tractors

the one Commonwealth is offering to install, has two advantages. First, it is designed to carry, safely, the power that modern appliances need. (Last summer many people who bought air cooling units were never able to use them because their 120-v. sources were inadequate.) Advantage No. 2: With a 240-v., three-wire supply, a homeowner can run as many as 10 120-v. circuits inside the house. With the usual 120-v. outside supply, the best he can do is four circuits.

• **Series**—Commonwealth is the latest entrant into a growing group of utilities that, over the past year or so, have joined the fight to promote better wiring. The NAWB, which works with a group of industrial sponsors, has been attacking the problem of safe home rewiring since 1937. The group promotes periodic wiring modernization campaigns, working through local newspapers, electrical contractors, architects, and builders. Contractors who do modern rewiring can compete for cash bonuses, based on the kind and volume of business they do.

But it wasn't until the utilities themselves began to lend a hand that the idea really caught on.

Cincinnati Gas & Electric Co. made the first offer to help home rewiring in October, 1953 (BW—Nov.7'53,p90). Latest figures show that it has helped in at least 870 jobs to date, to the tune of $212,000. Cincinnati's aid consists of making lump payments to contractors; homeowners pay Cincinnati back a bit at a time.

Other companies jumped at the idea. In six months, Portland (Ore.) General Electric Co. did $60,000 worth of financing for home rewirers. Similar plans have been introduced in Nebraska, Iowa, Illinois, Wisconsin, and Pennsylvania.

• **Appeal**—The Commonwealth deal has some features that should give it more than average appeal for potential rewirers. Part of the service—the outside wiring, and wiring entrance into the house—is free. That saves customers about $30. Also, Commonwealth has pitched its promotion so that people can think in terms of particulars, not generalities. By linking rewiring to the installation of an appliance, the company has brought the project down to earth, made its advantages obvious.

Company officials freely admit that the key to their plan is a desire to sell more power—something they can do only if the customers keep packing in high-power appliances. No matter what the motive, hopes are high that the new campaign will break down homeowner apathy.

Says Willis Gale, chairman of Commonwealth: "We hope to make our service territory the best wired of any comparable area in the country."

PRODUCTION BRIEFS

The first magnesium airplane is expected to fly sometime in February. The contract for two experimental magnesium planes was let by the Air Research & Development Command in 1949. Magnesium, the lightest known structural material (page 47), is plentiful, and is probably the best substitute for aluminum in aircraft construction.

•

Purdue University is teaching management and technical personnel how to get along with electronic computers. The two-week courses are sponsored by Electro-Data Corp., 717 North Lake Ave., Pasadena 6, Calif., and are designed to teach businessmen and scientists to set up and solve problems in their own field.

•

Hooker Electrochemical Co. of Niagara Falls, N. Y., has agreed to buy Durez Plastics & Chemicals Inc., North Tonawanda, N. Y. Durez, which got its start when its president found a way to mass-produce phenolic plastics has reportedly been talking merger with out of town companies for the past three years. Purchase by Hooker will keep the company in its old location.

•

Fifteen AEC contracts for unclassified physical research have been let or renewed. The contracts, most of which run for a year, are part of AEC's program that uses private laboratories for research related to atomic energy. Biggest grants were renewals to Purdue University researchers: $50,000 for work on atomic particles; $94,240 for tests with high energy electrons and X-rays.

•

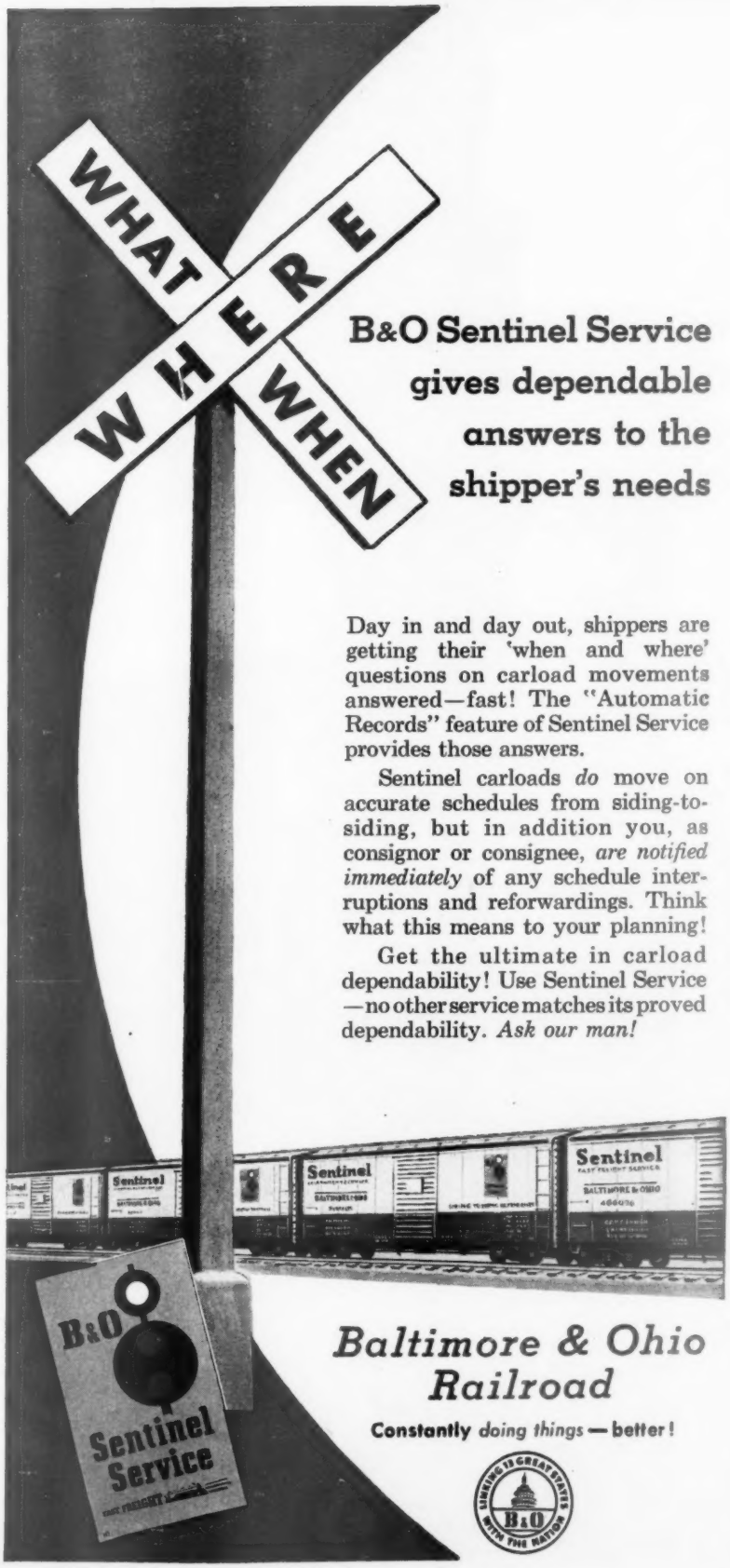
First plastic pipe from U.S. Steel was shipped in mid-January. The order, of 2-in. and 3-in. pipe for mine drainage was turned out at the Big Steel's National Tube Div., Gary, Ind., and is said to mark the culmination of a four-year program of research and development.

•

A 100-in. cold mill for rolling aluminum coiled sheet will be built by Alcoa at its Davenport (Iowa) plant. The mill, due for completion early in 1956, is said to be the largest in the industry. Aluminum sheet is used in building panels.

•

The rectangular color TV tube made by CBS-Hytron is ready for use in the industry on a sample basis. Hytron, which stopped making round color tubes last December, reports that its 22-in. rectangular tube can now be mass produced.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WHERE
WHEN
B&O Sentinel Service gives dependable answers to the shipper's needs
Day in and day out, shippers are getting their 'when and where' questions on carload movements answered—fast! The "Automatic Records" feature of Sentinel Service provides those answers.
Sentinel carloads do move on accurate schedules from siding-to-siding, but in addition you, as consignor or consignee, are notified immediately of any schedule interruptions and reforwardings. Think what this means to your planning!
Get the ultimate in carload dependability! Use Sentinel Service—no other service matches its proved dependability. Ask our man!
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Your materials for less with Republic's complete materials handling equipment

Republic's full line of materials handling equipment fits in beautifully with whatever type of system you use, or intend to use—overhead, truck, conveyor, or any combination.

Republic Boxes, Pallets and Skids keep materials moving, load and unload easily, stack readily, save floor space. Republic Pallet Racks allow you to palletize and stack bulky, odd-lot, fragile and irregular materials. You load or unload from either side, select single pallets from any level without restacking.

Republic Wedge-Lock Steel Shelving is the world's strongest. It supports tremendous weight with no sway, no sag, no buckling. Republic Chain Slings safely handle heavy, hard-to-manage materials. They meet all safety requirements.

Because all this Republic equipment is tough, durable, long-lasting *steel,* you can trust it to deliver long efficient service at lowest per-year cost. Republic specialists will work with you in modernizing your handling setup and in developing special equipment. The coupon below will bring more facts by return mail.

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Spot, projection, seam, and flash butt-welding. All types of fusion welding including shielded, submerged and inert-arc.

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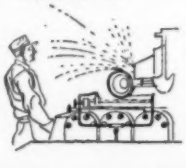
Production machining of welded circular metal components up to 96" diameter. Our equipment includes vertical and horizontal boring mills, vertical and horizontal turret lathes, automatic and semi-automatic lathes.

FABRICATING?

We can also do the forming required on welded components made from sheet, bar, or plate stock.



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Our plant is completely equipped to produce welded metal components in production quantities. For full information, write our Product Development Division—they will be glad to work with you.

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380 DIETZ ROAD • WARREN, OHIO

NEW PRODUCTS

Automatic Paul Revere

Perhaps the biggest obstacle to quick coordination of Civil Defense efforts in an emergency is the matter of communication—the lack of an effective, instantaneous, and inexpensive means of alerting Civil Defense workers, off-duty policemen, firemen, and anyone else who requires advance notice. The telephone is too slow, because thousands of people have to be notified. A public broadcast doesn't give Civil Defense and other officials any advance warning so they can handle the public.

Los Angeles County thinks it has found the answer to all these problems in a system called Sigalert. It has been approved by CD officials and the Federal Communications Commission, and is already operating in the county.

• **Tipoff**—By means of a special electronic device, Sigalert makes it possible to give advance notice to public broadcasting facilities—and through them, to alert CD workers and set the CD machine in motion before the news gets to the general public. For this advance warning, it uses the facilities of local broadcasting stations without interfering with normal programs.

Sigalert can also be used to set off air raid warning sirens automatically.

• **How It Works**—When the commanding general of an area flashes a warning of the approach of enemy planes, this warning can be relayed through the central control panel to local radio and TV stations.

At each station, the Sigalert circuit will trigger the broadcast of a signal that will be heard only by the CD workers and others requiring advance warning. The signal won't come through on radio and TV sets because its frequency is so low the human ear can't pick it up. But each CD worker will have in his home the special electronic device that does pick up the signal and make it audible. The device is housed in a cabinet about the size and cost of the smallest table radios.

Once the unit is plugged in to the house current, it is activated from central headquarters, and operates whether or not the radio or TV set is on. When the yellow alert is flashed, the unit's specially coded buzzer warns the CD or other protection agency official to man his post.

An alert via several stations gives almost complete reliability. That's because the Sigalert home receiver automatically tunes in a station, and will hunt up a new one if the old one goes off the air.

Sigalert was developed by the Southern California Broadcasters Assn., at the request of the Los Angeles Coun Civil Defense Organization, headed b Col. Richard F. Lynch. The inventor who holds the patents on the circuitry is Lloyd Sigmon, vice-president and a sistant general manager of Radio Sta tion KMPC.

• *Source: Federal Electronics Co., 599 Sunset Blvd., Hollywood 28, Calif.*

NEW PRODUCTS BRIEFS

A slide rule for parliamentarians is made by Pan-L-View, Room 235, 708 Church St., Evanston, Ill. The device gives answers to eight basic questions about 36 different motions. By matching a pointer with the motion in question, you can find the answer to such queries as: "Should the chair recognize the speaker?" "Is the motion debatable?" The rule is made of rigid vinyl plastic, costs $3 postpaid.

•

A magnet instead of a soap dish: Klik, a $2 device from Klik, 21756 Dequindre, Hazel Park, Mich., comes in two parts: a permanent magnet fixture, which is attached to the wall; and a small metal cap that is pressed into the soap. When the soap comes near the magnet, fixture and cap snap together, holding the soap in midair.

•

Magnefile takes inventory continuously, records sales, automatically figures federal and local taxes, and typewrites the sales slip. This recorder, operated at the point of sale, also computes and remembers the number of items in stock after subtracting the sale, and figures the clerk's dollar sales volume. From Electronics Corp. of America, 10 Potter St., Cambridge, Mass.

•

Lawn sprinklers are controlled by the Watco Sprinkler Control system, to be distributed by Water Cooling Corp., 71 Nassau St., New York. The system can be set to turn sprinklers on and off at regular intervals varying from 15 minutes to several days. A manually operated On-Off switch allows the sprinkler to be used at other times without interfering with the master cycle: $39.95.

•

Lighting circuits can be conveniently placed with Electrostrip, a flexible wire-containing plastic strip that can be shaped to fit around tricky corners. Once the strip is laid, snap-on outlets may be attached wherever desired, and moved at will. Electrostrip is made by BullDog Electric Products Co., 7610 Joseph Campau, Detroit 32.

Now—
good service insurance
for electric utilities—

ELECTRO-MOBILE POWER

HERE'S A NEW, low-cost safeguard of the dependable, adequate power supply for which electric utility companies are noted.

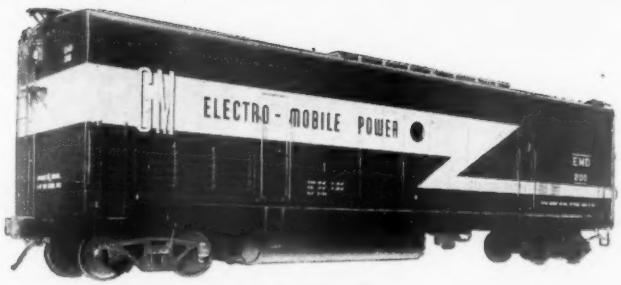
These two types of mobile generating units can be moved by rail or highway to the point of need—and then, following a simple connection, supplementary power of any desired amount can be on the line within 45 seconds!

For fringe area boosting, for peak skimming, for emergency use or temporary demand, these products of General Motors' Electro-Motive Division provide a flexible, economical tool.

These units, completely self-contained, can be fully automatic in operation. They offer the most advanced electrical engineering, equipment and controls, plus the well-proved dependability of a famous Diesel engine.

Mass-produced on the long-established lines of Electro-Motive Division's specialized plants, their cost is unprecedently low. Servicing facilities are nationwide. And the equipment investment is protected by a modernization program that prevents obsolescence.

We invite the inquiries of any electric utility company interested in service expansion.

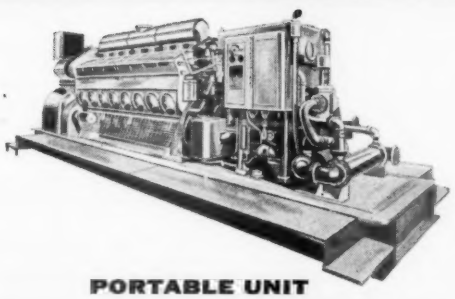


RAIL UNIT

1,000 and 750 kw. units for use on sidings, or placed on piers for semi-permanent use.

TRUCK UNIT

500 and 350 kw. capacities to move on highways to desired sites.



PORTABLE UNIT

1,000, 750, 500 and 350 kw. capacities for permanent or semi-permanent installations.

ELECTRO-MOBILE POWER FEATURES INCLUDE:

- Remote control starting and stopping
- From starting to full load within 45 seconds
- Automatic synchronization with line in phase, frequency and voltage
- Full protective equipment, including 3-phase surge capacitors, lightning arresters, over-current relays, field failure relay
- Complete self-operation can be provided
- Ability to meet higher capacity needs by unit multiplication
- Complete national parts and service availability

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS

La Grange, Illinois

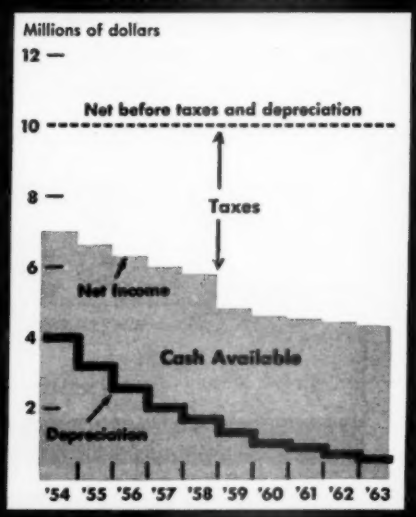
Sold and serviced directly through a manufacturer's organization. Electro-Motive Division offices in: New York City, Chicago, Jacksonville, St. Louis and San Francisco.

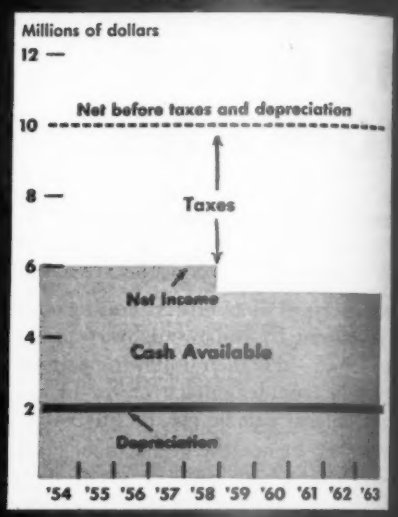
Depreciation: You Need to Fi

1. It works this way if you...

Make a one-shot investment of $20-million with a 10-year life, and then...

TAX RATES GO UP from 50% to 60% after 5 years



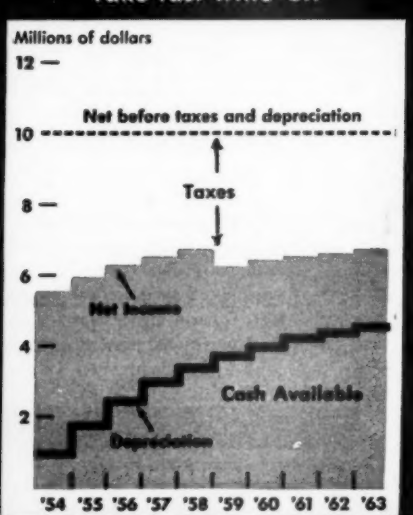


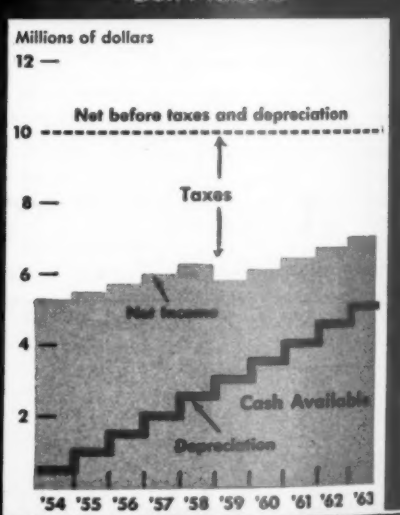
Totals for 10 years	Take fast write-off (millions of dollars)	Don't take it (millions of dollars)
Net profit	$36.5	$36.0
Depreciation	17.9	20.0
Cash available	54.4	56.0
Taxes	45.6	44.0

3. ...and it works this way if you...

Invest $5-million a year, and then...

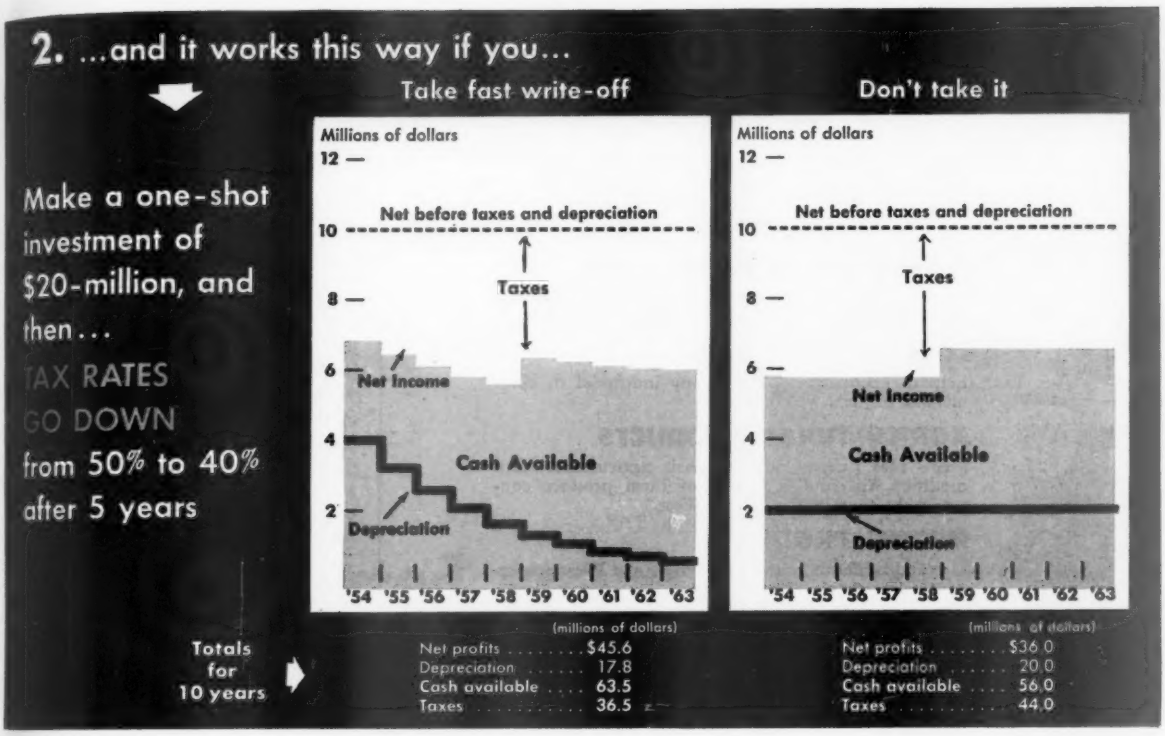
TAX RATES GO UP from 50% to 60% after 5 years





Totals for 10 years	Take fast write-off (millions of dollars)	Don't take it (millions of dollars)
Net profits	$31.0	$33.3
Depreciation	32.1	27.5
Cash available	63.1	60.8
Taxes	36.9	39.2

Figure the Options Now



It's Not an Automatic Choice

As the charts on these pages show, there's nothing cut-and-dried about management's problem of deciding whether to take advantage of the new tax rules on depreciation. It all depends on a company's expectations of sales volume, future capital spending, tax rates–as well as the immediate tax situation.

For a lot of companies it's a decision that has to be made promptly. Under the 1954 tax law, a company can choose one of several methods of writing off its investment in plant and equipment. The choice applies to capital spent after Jan. 1, 1954, so calculations for 1954 bring up the first round of decisions.

This week, BUSINESS WEEK reporters around the country found most company managements deep in questions of (1) whether or not to take advantage of the faster write-off that the new law allows and (2) if so, which form of it to use.

• **Three Options**–Under the 1954 law, management now has three main choices in making its federal income tax returns:

• The old straight-line method, in which the cost of plant and equipment is written off over its estimated life, an equal amount each year.

• The declining balance system, in which the rate per year is doubled but is applied only to the balance that remains undepreciated each year.

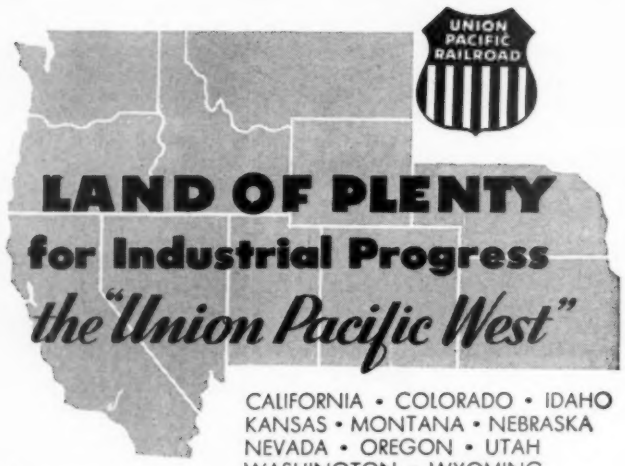
• The sum-of-the-digits method, which also speeds up the return of the capital investment. If the equipment has an estimated 10-year life, the digits from 1 through 10 are added; the sum is 55. For the first year, 10/55 of the cost is written off; for the second year, 9/55, and so on down through 1/55 in the 10th year.

Besides these three standard methods, a company can work out almost any combination of them that fits its needs. It has to get Internal Revenue Service approval, but IRS will consider almost any method that doesn't write off capital spending faster than the declining balance system.

• **Time to Choose**–Just about every company checked by BUSINESS WEEK said it is reviewing its depreciation accounting right now. Deadlines for reporting 1954 income to the tax collector are approaching, and so is the time for making annual reports to stockholders.

In both cases, management's decision now can have an important bearing on its bookkeeping not only this year but also for a long time to come. It is likely, therefore, that many companies will ask the Internal Revenue Service for more time to make up their minds. IRS can grant extensions on final tax reports as late as September.

Under IRS rules, if a company decides to stay with straight-line depreciation this year, it can later change to a faster write-off method only by negotiating with IRS. The same is true if a company elects now to use sum-of-the-digits. However, a company can shift



LAND OF PLENTY
for Industrial Progress
the "Union Pacific West"

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NEVADA • OREGON • UTAH
WASHINGTON • WYOMING

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In this western area there's an adequate supply of water and electric power, so essential to industry.

LOW UTILITY RATES
help to keep down costs in any industrial or commercial project.

AGRICULTURAL PRODUCTS
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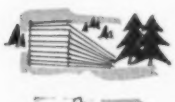
MINING PRODUCTS
Ore and minerals found throughout the West are important to many concerns seeking an industrial site.



FOREST PRODUCTS
The Pacific Coast states, particularly, provide more than sufficient lumber for building material and wood product manufacturers.

LABOR SUPPLY
It's a distinct advantage to be able to find local, reliable workers who are "rooted" in this western country.

GOOD LIVING CONDITIONS
The "wide open spaces" are ideal for healthful living and a happy home life; a factor to consider in management-employee relationship.

RECREATIONAL OPPORTUNITIES
From the top down, all employees can enjoy a fuller life where there are places close by for fishing, hunting and other outdoor recreation.

and TRANSPORTATION

Union Pacific provides the finest of rail service. In many cases, industry trackage can be built where requested.

* * *

If interested in an industrial or commercial business site within the area served by U. P., write Industrial Properties Department, Room 348, Union Pacific Railroad, Omaha 2, Nebraska, for confidential information—or contact your local U. P. freight representative.

UNION PACIFIC RAILROAD
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". . . if you have the chance to get your money back faster, take it . . ."

STORY starts on p. 91

from the declining balance method to straight-line depreciation without much red tape.

The form to use in reporting annually to stockholders is equally important, though there's more room for flexibility in making changes later.

I. Tax Write-Off

At first blush it would seem obvious that if the government allows you to deduct a larger amount of depreciation for tax purposes, you would jump at the chance. It would allow you to pay less tax now and thus keep more cash in the business than would otherwise be possible.

However, you have to stop to consider that when you write off more depreciation each year you won't have this deduction for as many years. Moreover, as the charts on pages 98 and 99 point out, a lot depends on what happens to tax rates.

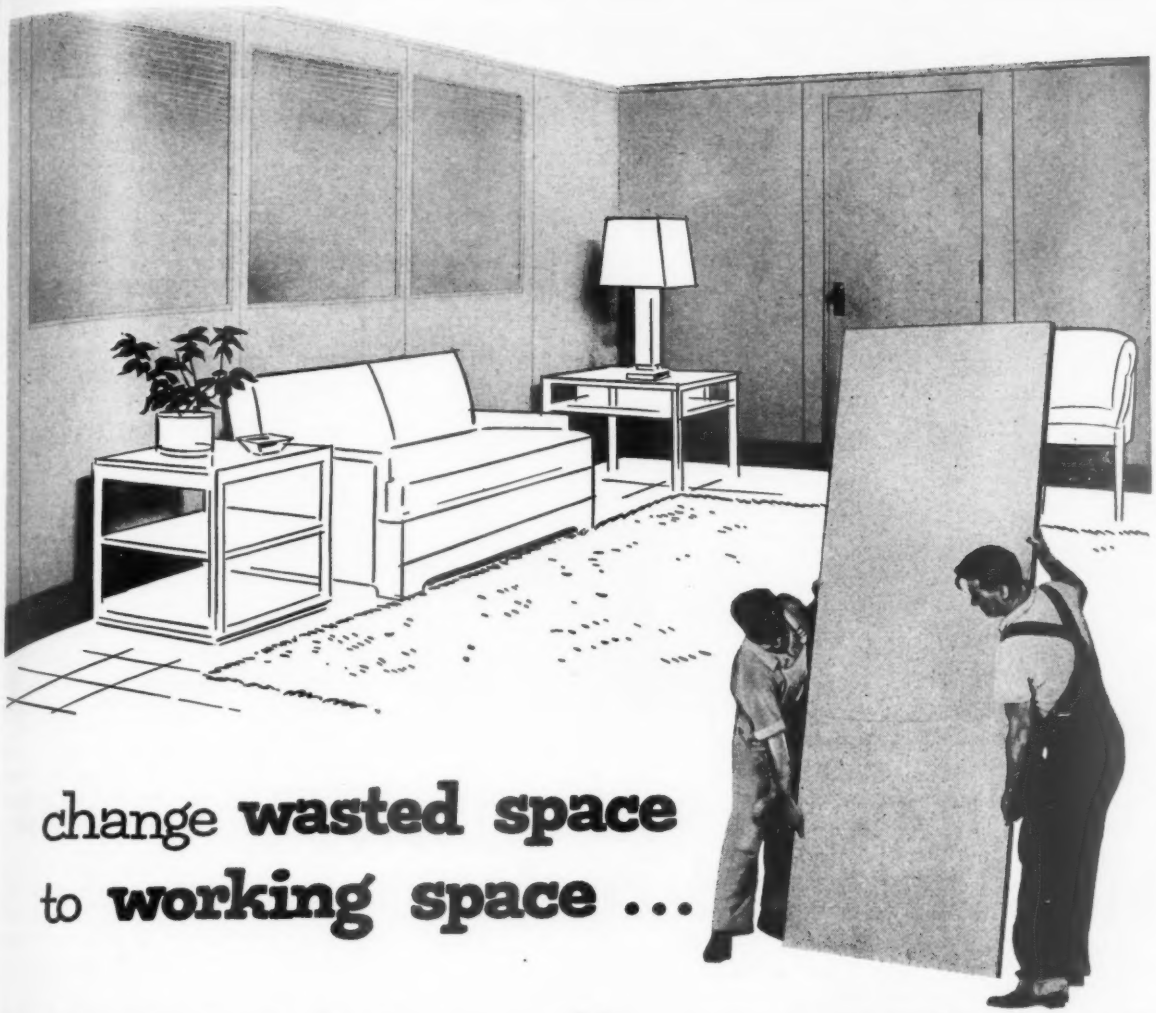
Essentially, when you elect to take a faster write-off, you are betting that tax rates will go down or will at least stay unchanged. You are writing off the bulk of your investment in the early years of the equipment's life; if taxes later go down, you will have taken your deductions when the tax effect was greatest. You'll be money ahead. However, if tax rates should go up, you will have only a greatly diminished depreciation write-off to apply at a time when taxes are heaviest.

• **How to Guess**—In most cases, BUSINESS WEEK reporters found companies taking the attitude that management shouldn't try to assume what tax rates will do. Their reasoning: If you have the chance to get your money back faster, take it.

That's not true in all cases, though. Some companies haven't made up their minds. Others have concluded their soul-searching with a decision to stay with the straight-line method.

Companies with heavy defense contracts tend to adopt the line expressed by Douglas Aircraft Co., Inc., which says: "In a business that is 90% government work, it is sound practice to write off capital expenditures fast. You should take the write-off when you have a high volume of business." In defense work, you never know when this volume will be slashed, regardless of the economy in general.

A special case is that of the oil companies. Companies that are deeply involved in development and production



change **wasted space** to **working space** ...

J-M Class A Asbestos Walls are movable ... save space and make space ... are noncombustible, lower priced ... come in pleasing colors

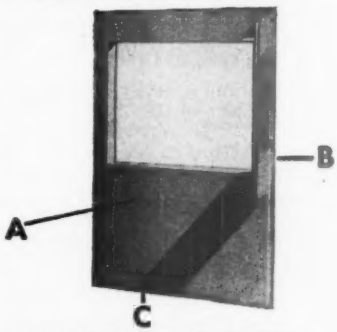
New Johns-Manville Class A Movable Walls offer you advantages never before combined in an asbestos movable wall. They are modestly priced. They are noncombustible. They have a textured, stipple finish in restful colors. They reduce maintenance and relocation costs to a new low.

The finish of Class A Movable Walls is a tough, hard film many times thicker than on the usual movable partition. It is mar and scratch resistant . . . rejects stain and soil . . . can be easily washed and even scrubbed, if necessary. If damaged, it can be touched up inexpensively to look like new . . . and, unlike other types of factory-finished partitions, can be repainted with ordinary paint.

Undivided responsibility for a complete job

These flush or glazed partitions are erected by the Johns-Manville Construction Department complete with doors, door hardware, glass and trim.

An estimate will convince you that the cost of J-M Movable Walls compares favorably with other types of wall construction. For details, write Johns-Manville, Department BW, Box 158, New York 16, N. Y. In Canada write 199 Bay Street, Toronto 1, Ontario.



A Noncombustible asbestos-cement surfaces

B Generous reinforcing for added strength

C Noncombustible all-mineral insulating core

JOHNS-MANVILLE PRODUCTS

Johns-Manville

THE END OF ANOTHER

old American custom

"WET PAINT" signs are no longer needed.

Today paint dries in 10 minutes — when it's made with National's patented polyvinyl acetate emulsions. You hang pictures and draperies instead of "WET PAINT" signs. Or if you're in the mood, you can start the second coat immediately. Without moving scaffolding or cover cloths. Using roller, brush or spray.

These amazing new paints are washable. They don't "yellow" or become brittle with age. They have only a slight, pleasant odor that disappears with drying.

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of oil are permitted special depletion allowances that are more important to them than the write-off of capital expenditures. They must figure which write-off method works best for them and most prefer not to adopt the faster methods. However, companies that are deeper in the refining and marketing fields look more favorably upon the fast write-off; one company is splitting its accounts so as to take fast write-off only on refining and marketing activities.

In no case did BUSINESS WEEK find an oil company using fast write-offs for the production end of the business.

II. Annual Reports

From the cash point of view, there are many many reasons why a company would want to speed up its write-offs, but there is another side to the story. Does the greater depreciation write-off make net income look bad to the owners of the company?

Company after company told BUSINESS WEEK that it is seriously considering two bookkeeping methods: the fast write-off for tax purposes, and a lesser depreciation figure for annual reports.

• **It All Depends**—Obviously, a company doesn't mind having its income figures look bad to the tax collector, but it doesn't like looking bad to its shareholders.

Some steel companies have this problem. During the defense buildup, they received certificates of necessity for five-year amortization of plant investment. Now they find that these expenditures are being written off so fast that earnings look pallid. They show stockholders a net income after taxes that isn't a true picture of real earning power.

That's why companies are keeping two sets of books, though so far the practice seems confined to facilities with a five-year write-off period. As more companies take fuller advantage of the liberality of the 1954 law, however, the practice may spread.

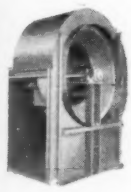
• **Cases**—One billion-dollar company is studying a situation in which it is now using all three options under the law—straight-line, declining balance, and sum-of-the-digits—for various accounts.

Ever since depreciation rules were tightened in 1933, this company has shown more in its depreciation account in the annual reports to stockholders than it was allowed to take in its income tax returns. Like many other companies, it considered the tax regulations too strict, so it made adjustments in reporting profits to the public.

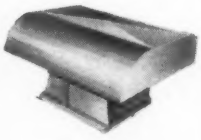
Now, however, it finds its tax write-offs approaching the annual report figures. Next year, in fact, the tax deductions may exceed the figure in its stockholder reports, so it may decide to

In the Morristown plant of Belding-Heminway, processing "miracle" fibers requires a constant humidity of 60%.

American Blower provides perfect climate for processing new "miracle" fibers



HS Fan



Power Roof Ventilator

Capillary Air Washer

Gyrol Fluid Drive

Man-made "miracle" fibers—such as rayon, nylon, dacron and orlon—have been a boon to the textile industry. But they have introduced manufacturing problems, too. Unless atmospheric conditions in the processing plant are controlled precisely, thousands of dollars spoilage would quickly result.

That's why, in their Morristown, Tenn. processing plant, the Belding-Heminway Company depends on American Blower air handling and conditioning equipment. It provides perfect indoor climate: constant relative humidity of 60% and temperature within a 78° to 84° range.

In seven years of continuous operation, the plant has never had spoilage due to faulty indoor atmosphere. The heart of this system is a huge American Blower HS fan with its speed controlled by a Gyrol Fluid Drive. The fan draws air through an American Blower Capillary Air Washer where it is cleaned, cooled and moistened for distribution in the plant.

For the most efficient and economical air-handling equipment for *your* particular needs, look to American Blower. Give your nearest American Blower or Canadian Sirocco Branch Office a call . . . today!

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scale them down instead of up in its annual statements.

Another, smaller company will use the fast write-off whenever it makes a major investment, but it has just about decided to report a smaller figure to stockholders.

"We want our report to stockholders," says a spokesman, "to be as accurate a picture of our company as it is possible to give."

III. Formula for Growth

In considering the inevitable tax angles that go with depreciation policy, you will likely find a different attitude between (1) companies that can see in the not distant future an end to a major capital expenditure program and (2) those that plan to continue substantial expenditures and may even increase them.

• **One-Shot Deal**—A company that has spent a large amount of money in one chunk can see the time, if it uses a fast write-off method, when its depreciation allowance melts away to practically nothing. That time comes much sooner than would be the case under the straight-line formula. Such a company might be a lot more cagey about accepting the bird-in-the-hand philosophy that says to take back your costs as fast as you can.

Steel might be a case in point. One steel company controller questioned the wisdom of writing most of your capital investments off in half the time of the older procedure. His company is in an industry that traditionally has large expenditures, followed by fairly long gaps of meager spending.

• **Continuing Growth**—On the other hand, where a company has a continuing program of large capital outlay—as in the growth industries—there is a double incentive for making use of fast depreciation rules.

First, the company knows it will have demands for cash to continue its expenditures for plant and equipment. A declining balance system lets it get its cash back faster. Secondly, it doesn't have to worry about a taper-off in its depreciation allowance as happens in a one-shot investment.

That shows up in Chart 3 on page 98. Even where tax rates are boosted after five years, the net result over a 10-year period is more cash available (in the form of profits and depreciation allowances) under a declining balance method than under a straight-line method.

The same applies, of course, if tax rates should go down.

This effect, of course, is the aim of the liberalized tax law. The depreciation sections are written to give the most encouragement to the companies that are expanding steadily.

PERSONAL introduction to new products is part of Westinghouse's formula for . . .

Lining Up the Suppliers

In the 1940s, when war pressures shoved steel and other materials into short supply, it wasn't uncommon for manufacturers to sweet-talk their suppliers (BW—Jul.7'51,p22). Even now, it isn't unusual for a manufacturer who's in trouble to cultivate his suppliers and try to enlist their help in ironing out cost and quality problems.

Neither of these conditions apply today at Westinghouse Electric Corp.'s Transformer Div. in Sharon, Pa. But Westinghouse does have a problem that concerns it. When a manufacturer such as Westinghouse makes at least one design change somewhere in his product line every day, it keeps more than the company's own engineering department off balance. It's hard on the suppliers, too.

• **The Pitch**—This and other problems are just real enough at Westinghouse's Sharon plant to have caused an unusual meeting there last week. Then, Westinghouse played host to 89 representatives of 43 different suppliers. They came to Sharon to look at a new line of distribution transformers. They heard sales, quality control, engineering purchasing and manufacturing executives of the division explain their problems. And they heard the division's top management invite them to let Westinghouse help them to more business with its transformer division. What Westinghouse was doing, in its role of host, was some purely institutional character building with a group of people it considers vital to its success. It was aiming not so much at remedying problems as at preventing them.

• **Caution**—The engineering manager, for instance, explained one of Westinghouse's supplier-relations problems: why it often turns down some new product a supplier wants to sell.

"It may only be a $1 item, but if it fails, it will cost a utility $30 to take the transformer down from the pole. Utilities buy transformers to operate from 25 to 40 years. They don't like to take them down for repairs, and they don't buy transformers if they think they'll have to. That's why we've got to be sure before we take that new part you offer."

• **Invitation**—The division's sales manager illustrated another point by explaining how the constant increases in load have forced constant redesign of pole-type transformers.

Unremitting evolution at such a pace, the suppliers heard, forces the development of all manner of new materials. It's there, perhaps, that Westinghouse transformer builders reached their most dramatic pitch. They urged suppliers to bring in the facts about new products under development in suppliers' labs. And—without giving suppliers a blank check for unlimited development expense—Westinghouse told its guests that it would help them develop interesting new materials, help tailor them to Westinghouse needs so as to insure the suppliers a larger, steadier market at the Transformer Div.

Speaker's Bureau Grows Up

More and more companies encourage their middle and lesser brass to address community groups. The service is being systematized.

This winter, two events highlighted meeting-minded America's voracious appetite for speeches, and the efforts of management to whet that hunger still further.

• When the East Cleveland Woman's Club sat down for a talk on the St. Lawrence Seaway by a Republic Steel executive, one of the club's 125 members was the 100,000th person to hear a company speaker since Republic set up its speaker's bureau in 1950.

• At about the same time, General Electric ran a full-page ad in Schenectady papers to tell program chairmen in the area that GE had a stable of speakers—available without charge—who could talk on a wide range of subjects. Within three days, GE's speaker's bureau was flooded by more requests than it had in the 10 previous months.

• **Face to Face**—Both events are a tip-off that companies already spending millions on mass communications are also sold on face-to-face meetings at the community level.

Republic and GE set up their formal, big-scale speaker's bureaus in 1950. For years before that they had loosely coordinated groups of speakers at headquarters and in cities where they had big plants. Not until this fall, though, did GE add a full-time speech and arrangements specialist and launch intensified efforts to get people put on community programs.

Republic first set up its bureau in Cleveland, later spread it to six other Republic cities with increasing success. The man who talked to the Cleveland women was discussing for the 86th time the influence of the Seaway on Cleveland.

• **Volunteers**—Most of Republic's talks are given by middle and junior bracket management people drawn from all departments. Usually, the volunteers pick their subjects and work up their own material with editorial and policy reviews provided by the company. Speech training comes from courses provided as part of management's regular extracurricular education.

Almost any group can be a Republic audience. More than 10,000 organizations in and around Cleveland hold regular meetings. Out of these, the service clubs (such as Kiwanis, Rotary, Lions) are the most frequent users of Republic's bureau. But Republic management figures that every group is a potential source of goodwill, hence eligible to ask for a Republic speaker.

Republic's seven bureaus get about 65 requests a month, or a shade more than one a month for each of its 63 speakers.

• **Smaller Outfits**—Republic and GE aren't alone in promoting speeches. The American Iron & Steel Institute estimates that the number of its member companies that send out bright young men to speak has tripled in five years. Last year, these companies had on tap five times as many speakers, giving six times as many talks, as they did in 1950. Most of the new effort comes from smaller companies.

In the automotive industry, just about everybody is trying to crowd up to the speaker's rostrum. Sometimes, the demand for speakers is so great that management cries "uncle." One harassed Ford community relations man wailed, "These program chairmen think all they have to do is call us up—and we can give them anything at any time."

Ford has its biggest pool of speakers among management at Dearborn, but there are hundreds more outside headquarters. Three-fourths of them come from middle and lower management. They rattle off talks on anything from transportation economics to the building of hot-rods. Headquarters speakers alone give about 500 talks a year. Tom Reid, Ford's director of civic affairs, made a score of speeches last year in addition to his other work; he had requests for three times as many. Reid, like the other Ford speakers, is so swamped with requests that management is beginning to wonder if the point of diminishing returns is in sight.

• **Screening**—The problem now is to select from the flood of requests those engagements where people are really interested in what Ford's men say.

The company has set up a bureau at Dearborn, with three men and two girls, to serve as a central clearing-house for requests, to help headquarters men prepare their talks, to reprint speeches for mailing to outsiders and for source material usable by company speakers in remote communities.

The community relations committees that Ford has set up in 38 key zones can usually judge the appropriateness of each request and of the speaker's proposed material. The 13 area public relations chiefs watch for special situations that a couple of good talks might clarify.

Dearborn keeps a map pinned to

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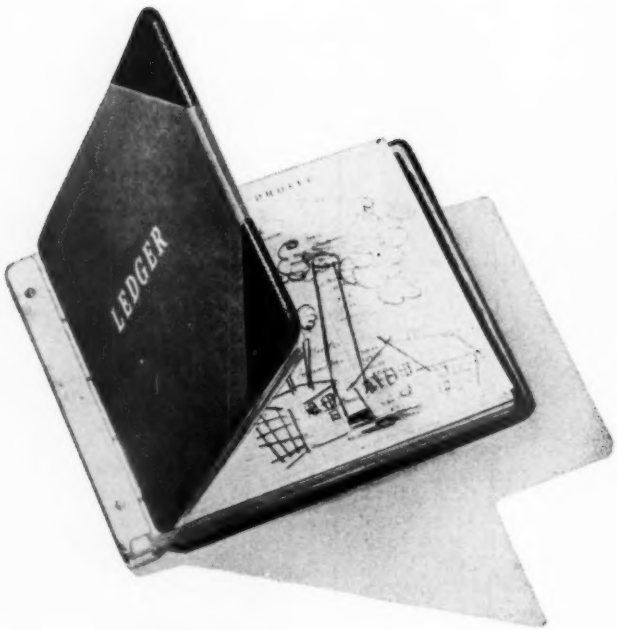

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show where speakers have appeared. When the pins begin to cluster, a slowdown is ordered; when gaps show up headquarters passes the word to do something about it.

• **Full Time Pros**—Some companies and associations keep full-time professional speakers to hit special audiences hard. Jones & Laughlin has a special sales representative booked for months ahead. He junkets about the country talking on all kinds of subjects to all kinds of audiences. In his bag of tricks are slide films, movies, flip charts, and just about the whole list of the lecturer's paraphernalia.

General Electric has organized 11 speaker's bureaus in its largest plants, with some 400 speakers on tap. To encourage community speaking at the smaller plants, GE has worked up a kit of 14 speeches by the company's top experts in major fields. Thus a local speaker need not worry about straying from the party line. All he has to do is rework one of the kit speeches and read the speaker's handbook.

Many small companies are using the kit idea. In effect, it takes the place of an elaborately organized speaker's bureau, because the material it provides is sure-fire, safe, and handy.

MANAGEMENT BRIEFS

An electronic facsimile system, developed by International News Service for fast transmission of copy and photos to TV stations, has been adapted to interoffice communication by Chrysler Corp. According to Chrysler, copies of documents from its central files can be sent to branches in minutes while the originals are kept safe at headquarters.

•

Whoa: Thomas J. O'Neill, New York lawyer and a stockholder in the Colonial Trust Co., has brought suit to block acquisition of the bank by Chesapeake Industries, Inc., an Ohio company in which Robert R. Young owns stock (BW—Jan.15'55,p114). O'Neill charges, among other things, that control of the bank by out-state, non-banking industrial interests violates the N. Y. State banking law.

•

Armstrong Cork Co., Lancaster, Pa., this week awarded 10 scholarships and two graduate fellowships, and at the same time joined the growing industrial trend to support education (BW—Jan. 8'55,p128). With each scholarship—for two years, with a $2,200 maximum—Armstrong hands an additional $1,000 to the school involved, if it is privately endowed. The one-year fellowships give the student $1,100 for tuition and costs, plus a $1,500 stipend. His college gets $500.

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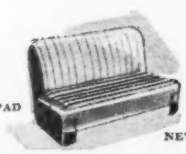
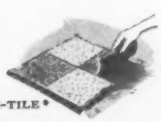


TOPETTE SEAT PAD



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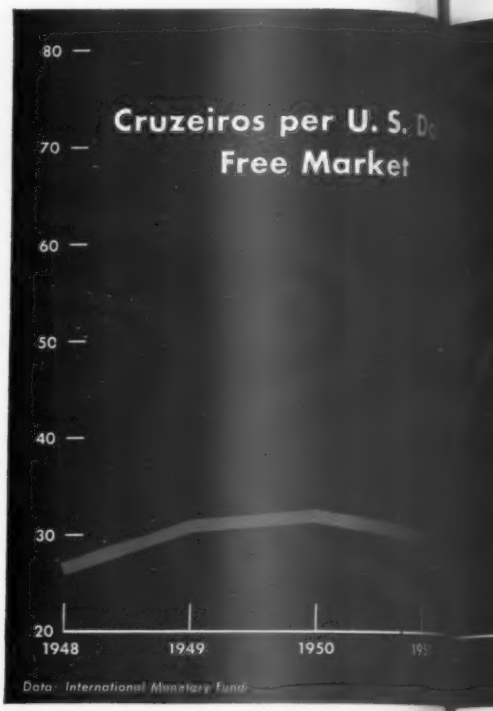
Lame ducks, Pres. Cafe (left) and Finance Minister Gudin, have just a year to check Brazil's runaway inflation and set the nation on the road to orderly development.



Brazil's Inflation . . . .

Bustling Growth and a Runaw

Optimism is a constant in Brazil. And the inflation that has grown out of this optimism has never seemed to diminish it. Even amid today's financial troubles, many businessmen are cheery about the outlook. Certainly, there will be problems, Brazilians admit. But they insist that something always turns up, that the nation will keep on growing richer and more powerful. Remember, Brazilians say, our economy is one of the most resilient in the world.

Outsiders will agree that it is nothing if not resilient. Few economies could have withstood the mismanagement, corruption, inflation—and jungle-like growth—that have marked Brazil's past decade. Brazilians have created an industrial plant second to none in Latin America. They have also created a financial quagmire.

Last week, Brazil's currency, the cruzeiro, was pushing 75 to the dollar (chart, above). Other indexes—money in circulation, cost of living—record the inflationary fever. A big slice of the nation's gold reserves is in hock against dollar loans; future reserves and future earnings are mortgaged to pay debts and to import necessities.

• **The Present**—It's a picture that leads some Americans to insist that the only resilient factor in the Brazilian economy is the U.S. taxpayer, that the "something" that will turn up to save Brazil will be forbearing creditors. Brazil is bankrupt, declares one New York currency man. There'll be no rich future for Brazil, he warns, unless the nation straightens out the present.

This week, Finance Minister Eugenio Gudin was struggling manfully in the present. Reportedly on the verge of resignation a while back, he has apparently been persuaded to stay on through the lame-duck term of Pres. Joao Cafe Filho (BW—Sep.4'54,p125). Gudin has an unpopular job. He has already tightened credit to the point where several speculative banks have failed and the middlemen and profiteers of Brazil's distribution system are howling for money. Imports have been cut far back, and hard-pressed industries are strapped for supplies.

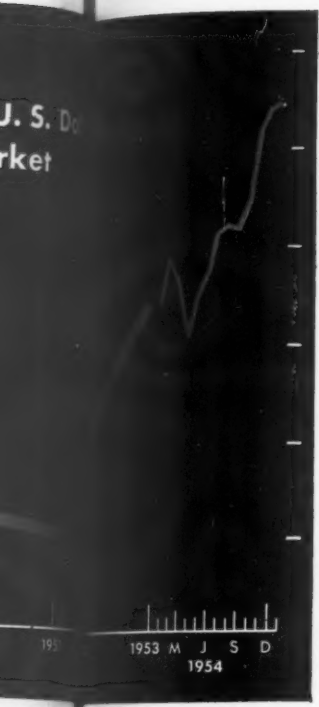
To many of Brazil's friends—and creditors—the howls are a hopeful sig That Gudin stays on the job, and t his anti-inflationary prescription wo are matters of urgent concern.

I. March of Inflation

Brazil's inflation has been a spur industrialization; it has encourag risk-taking by bringing windfall profi it has built a lot of plants. Inflati is part and parcel of Brazil's boom, a solid business people as well as twili operators have a vested interest in But more and more, inflation is wa ing Brazil's substance, dragging do its progress.

Inflation first took wings in Bra in the late 1930s. After the Depressio born failure of coffee, industrializati became the dynamic force of the eco omy. Inflationary pressures built up.

World War II trade surpluses s the spiral spinning wildly. Brazil co sistently sold more abroad than it cou buy; capital and consumer goods we desperately short. According to econo mists of the now-defunct Joint Unite



...Distorts Its Economy.

- Frenzied building and real estate speculation diverts investment from needed development. Already the boom is shaky.
- Industry grows fast, stimulated by an expanding market and by scarcity of imports. But inflation encourages outsized profits, unbalanced development.
- Transport development lags; worn, obsolete facilities need massive investment; this is key to increasing food supplies — lowering prices.
- Energy is a major bottleneck as industry outruns its power base. Electric development can't keep up; urgent petroleum investment is mired in politics.

Currency

States-Brazil Economic Development Commission, external factors were probably the decisive element in the Brazilian inflation until 1947. After that, domestic causes—arising out of the churning expansion within Brazil—became the more important inflationary generators.

• **Soft Spot**—Several factors, the Joint Commission said in its final report (published late last year), make Brazil more vulnerable to inflation than some other nations that have industrialized. Brazilian agriculture, for example, has always been largely devoted to export crops such as coffee, cacao, cotton, or sugar rather than essential foods; there's no big surplus of foodstuffs to divert to the home market to beat down rising food prices, a major inflationary force. Nor has Brazil received the immigration—in terms of people or capital—that nations such as the U. S., Canada, and Australia received as they industrialized.

Furthermore, the emphasis on industrial growth has induced Brazil to concentrate on spending for capital goods rather than consumer goods. This, too, has had inflationary results. Heavy capital spending (1) creates more jobs for workers, puts more money in the public pocket; and (2) temporarily diverts money and work that might otherwise be spent on producing or importing consumer goods. The result is more money to be spent, less to spend it on —the basis of inflation.

• **The People**—You must look to the nature of Brazilians themselves in understanding their inflation. There has been no effective or nonpolitical supervision of money and credit. Personal relations determine policies; pressure groups call the turn. The government has always taken the easy—and inflationary—way out.

Money supply and loans of all kinds have multiplied by more than 10 since 1939. In the last 11 months of 1954, Bank of Brazil loans to the Treasury increased 34%, more than doubled to state governments and other entities. When Finance Minister Gudin took office last fall, he found that one president of the Bank of Brazil during the Vargas regime had authorized loans totaling 1.5-billion cruzeiros to companies he himself headed.

• **Warning**—Gudin has told Brazilians

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ANNUAL CAPACITY **1,752,000 barrels**

1930 After rebuilding and enlarging the original plant, Marquette started paying dividends in 1910, and in 1923 acquired a second plant at Cape Girardeau, Mo. . . .

COMBINED CAPACITY **5,783,000 barrels**

1940 Then came the building of distribution centers at Memphis and St. Louis, establishment of a barge line, and in 1940 acquisition of a plant at Des Moines, Ia. . . .

COMBINED CAPACITY **6,783,000 barrels**

1947 The producing plants of Hermitage Portland Cement Co. and Cumberland Portland Cement Co. were purchased, at Nashville and Cowan, Tenn. . . .

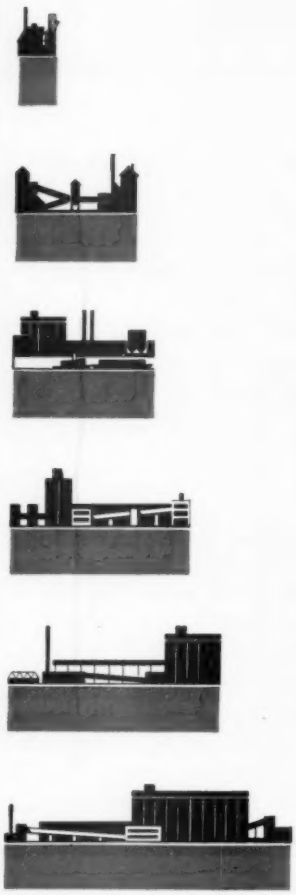
COMBINED CAPACITY **8,545,000 barrels**

1951 Expanding southward and now going strong, the company built a completely new producing plant at Brandon, Miss.—first and only cement plant in that state . . .

COMBINED CAPACITY **10,145,000 barrels**

1954 Broadening its market for still greater sales volume stability. Marquette acquired and upped the capacity of two more plants at Superior, O., and Rockmart, Ga. . . .

COMBINED CAPACITY **13,600,000 barrels**



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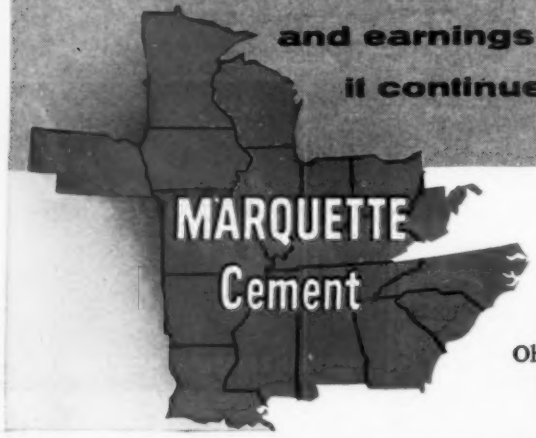

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flatly that the situation is "calamitous." Inflation, he says, has advanced [illegible] beyond the point where investment is distorted and diverted from necessities. It is destroying confidence in the cruzeiro, has completely fouled Brazil's international accounts. Most serious, inflation is causing ominous unrest among Brazilian workers. They are finding it hard to keep up with living costs, which have increased at a compounded annual rate of 16% a year since 1939, and jumped about 25% in the past year.

II. Stemming the Tide

Pres. Cafe and Gudin have both the advantages and disadvantages of lame duck administrators in trying to force austerity upon an unwilling nation. Elections come in the fall; and Cafe, who was Vargas' vice-president, is forbidden by law to succeed himself. When fall comes, his time in office will end automatically. He and his finance minister are not constrained by political obligations and hopes—and can follow a pretty independent line administratively; but on the other hand, they have little real power.

The most outsiders hope for is some slight slowdown in the inflationary pace, a halt in the foreign exchange hemorrhage caused by Vargas' disastrous coffee policies (BW—Jul.24'54,p112).

• **Efforts**—Any steadying of the Brazilian economy would be a major victory, and Gudin is trying. He has cracked down on credit, cut back public works and other government spending. Nonessential imports have been cut to the bone.

There's no doubt that the nation feels it. The middlemen—wholesalers, retailers, brokers, who control Brazilian distribution and depend on credit—can't find money, and are far behind with their bills. The real estate boom, perennial in Brazil, seems to be jolted. Building investment and construction seem to be off, and everyone was shocked by the failure of several weak—and perhaps corrupt—banks allied with construction. The import hold-down is squeezing industrial inventories of certain raw materials and equipment, and some businessmen warn they can't hold out much longer.

• **Trade**—One of Gudin's hardest fights is to break even on foreign trade, especially dollar transactions. His program means slim pickings for U.S. exporters to Brazil. Gudin hopes to keep dollar exports at an average $60-million monthly. Imports of everything but fuel, food, and certain essentials are to be held down to $10-million monthly—starvation rations for traders.

With the imports that tight, Gudin may be able to squeak through 1955 without seeking financial aid from

For messages that get across...
*Letters typed on an IBM Executive Electric Typewriter

Washington. But with oil imports running at $20-million monthly or more, plus the usual large food bill and debt repayments, it will be a close shave.

There are some favorable factors. Brazil will get surplus grain from the U.S.; some nondollar grain will be available, and Brazil's own wheat crop should be good. The market for Brazilian cotton and cacao looks reasonably sound. Coffee, of course, is the question mark. Much further softening of the price in the world market could wreck Gudin's plans.

• **Aid**—The big danger is that political pressures will force relaxation of import curbs. If that happens, Rio de Janeiro may need bailing out once again. And Washington will grant aid; Brazil is too valuable an ally and trading partner to lose. But the bargaining will be hard. The U.S. wants to keep maximum pressure on Brazilians in hopes of forcing reforms.

III. A Firm Hand

Most urgent, in the eyes of most outsiders, is the job of breaking the back of the present inflation—slowing down a wildly overextended economy without turning the program into a deflationary rout. Firm new fiscal, monetary, exchange, and wage policies must be adopted—and coordinated. In the framework of Brazil's political traditions, this may be a hard task.

At the same time, transport, power, and fuel development must be pushed. Investment in these areas has lagged, and the lag is increasingly hobbling Brazil's growth. The Joint Economic Development Commission puts it this way:

• The food and agricultural problem is "much less that of increasing output than of transporting and distributing currently produced crops." Better communications, rail and road, could hold down food prices—and also open up much of the country to new production.

• The Brazilian economy has outrun its power capacity, and the entire economy is suffering. Last weekend's inauguration of the government's big (180,000-kw.) Paulo Afonso hydroelectric project is a good omen—but barely a drop in the bucket in terms of need.

• Oil imports continue as far and away the most damaging drain on Brazil's resources. New oil refineries now coming on stream will doubtless save some exchange, but they are no substitute for a large-scale oil exploration and development program. The Cafe government, and many business people, feel that the present nationalistic petroleum laws must be revised to encourage the needed investment from abroad; but there's no sign they can force a change this year.

The Farm Surplus Moves

Billion-dollar program for disposal abroad begins to gather steam. Our allies say it's too much, Congress says it's too little.

The Administration's $1-billion, three-year program for disposing of agricultural surpluses abroad is beginning to roll, after a painfully slow start. Washington now has deals lined up to sell $453-million worth of surpluses outside the U.S. by next June and plans are being made to give away an additional $125-million. This means that over half of the surpluses involved in the programs should be moved in the first year—a very fair performance.

But it's clear already that this is one government program that can't satisfy anybody, no matter how successfully it is carried out. The farm bloc in Congress is grumbling because surpluses aren't moving abroad fast enough. And our allies are accusing us of upsetting world markets by dumping.

U.S. officials administering the program call it a "nightmare of paradoxes." No matter what they do, they are bound to be in hot water either at home or abroad.

• **Rollback**—There's considerable pressure from the farm bloc already for a bigger and less cautious effort. For example, Rep. Jamie Whittin (D.-Miss.) is sponsoring legislation to roll back price supports, marketing quotas, and acreage allotments for U.S. farmers to Jan. 1, 1954 levels on commodities that the government wasn't selling at "competitive prices" abroad. "Competitive prices" presumably mean any prices at which the goods can be sold.

There's little chance of this bill passing. It would be taken abroad as a declaration of an all-out price war. But chances are good that Congress will raise the $1-billion, three-year ceiling on the Foreign Surplus Disposal Program. It may even remove the ceiling altogether, and tell the Administration to sell as fast as it can and come back for money if needed.

A bigger program inevitably would mean a bigger crop of foreign repercussions for the State Dept., and State already has its hands full.

• **Butter Protest**—New Zealand has formally protested against an Agriculture Dept. decision to sell 10-million lb. of butter in the first quarter of 1955 at "competitive" prices. New Zealanders charge that this is barefaced dumping, point out that prewar U.S. foreign sales of butter averaged only about 1.5-million lb. per year. Holland, Denmark, and Australia—the other big butter exporting nations—also have complained informally. All have stressed that butter exports are a vital component of the foreign trade, whereas they are merely a grease stain to the U.S.

Then Burma and Thailand claim that surplus sales of wheat to Japan have cut Japanese demand for their rice. Even the Japanese aren't enthusiastic about the deal we've made with them. They grumble that a big slice of the yen proceeds from wheat sales are being used to finance the military buildup which would otherwise have been financed with dollar aid.

• **Overstated**—In reality the record of foreign surplus sales under the program doesn't seem to justify the intensity of foreign fears or of Congressional impatience.

Included in the $452.8-million of sales actually arranged are 300,000 tons of bread grains to Turkey, $85-million worth of grains to Japan, $60-million of wheat and cotton to Yugoslavia. An agreement to sell $31-million worth of grains and other products to Pakistan has been virtually closed.

Of the $125-million give-away plan Agriculture has already got rid of about $68-million worth.

Officials insist that the U.S. isn't seriously threatening the stability of world markets. Although projected sales for the first year of the program would boost U.S. exports of the commodities involved by some 25% over 1952 levels, they still add up to less than a 10% increase in the world volume of trade in these goods.

• **Buildup**—The only way the program could have been handled without some dumping, according to U.S. officials, would have been to gear it to new development programs abroad, thus increasing total world consumption.

This was the idea behind the Administration's original program. But it was dropped because it took too long to satisfy Congress and also ran against Congressional opposition to more aid programs.

Dumping or no, the Administration seems stuck with some kind of a surplus disposal program for years to come. Program officials expect Congressional pressure to push up the ceiling some this year. But Allied pressure almost certainly will contain it within roughly the present bounds.

Meanwhile, the program isn't apt to make much of a dent by itself in CCC's stockpiles. These climbed from $6-billion in July to $7-billion in November and further increases are in the offing.

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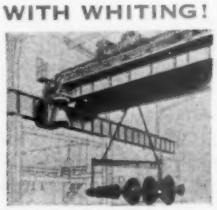
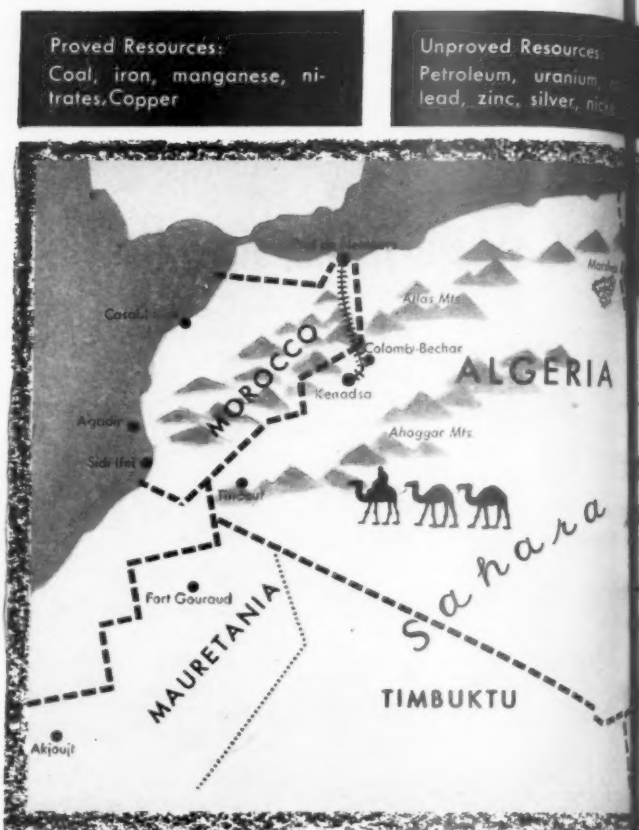


Overhead Cranes

Industry for the Sahara: France's

It's crisscrossed by political boundary lines now. A French group wants to make it a single development unit, administered by a Corporation of the Sahara. The dream: an industrial empire in the desert.



A Dream of Big Things in t

The French tricolor was still flying this week from isolated desert posts in the huge southwestern Libyan desert called the Fezzan (map, above). The 400 French Foreign Legionnaires might not know why they are there, especially since newly independent Libya wants them out. But Paris has its reasons. The French government wants to keep using the Fezzan as a barrier against infiltration of terrorists from Egypt into French-held Tunisia, Algiers, and Morocco (page 119).

Another Paris group, whose critics call it "the Sahara Cult"—made up of government and private interests—has still another reason: It sees French occupation of the Fezzan as an eastern anchor for French control of the vast Sahara desert.

• **Dream**—The Sahara Cult, with some recent encouragement from Premier Mendes-France, believes France can turn the Sahara into a new industrial empire. Its members believe such industrial development could solve all sorts of problems for France, which is hard-pressed by militant Arab nationalists in North Africa and an increasing population in all its African colonies. If France could develop an industrial complex in the Sahara, they argue, it could offer a new life to the Africans. Premier Pierre Mendes-France also sees African development as a "European" project, a way to unite Germany and France in a joint development scheme.

The Sahara boosters offer the mining developments already under way in West Africa as proof of what could be accomplished. And they put great stock in geologists' guesses that still more mineral wealth lies untapped in the region.

Three things stand in the way of Sahara development: transport, water, and capital.

But the French planners and some private investors have some far-reaching plans—several already being put to work —that might overcome the difficu

• **Not All Sand**—The Sahara is not most think, one vast region of dunes. As a matter of fact, relati little of it is sand. Huge areas are "h mada," the gravel base that rem when the soil blows away. And t are at least three important mount ranges.

The Sahara is divided into se political segments (map). Sahara bo ers believe its future lies in its be withdrawn from these separate gov ments and turned into a unit by it They would like to see development the entire region administered thro a part government, part private C poration of the Sahara—an operati much like the U.S. Tennessee Va Authority.

• **Mining**—The planners' hopes for t future aren't based simply on ther They point to two main areas wh development is already under way, the western end of the desert,

e's Africa?

sources
ranium,
ver, nick

Obstacles:
ransportation, lack of capi-
l, water, power

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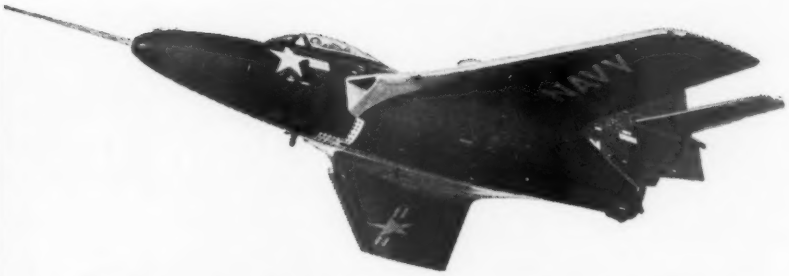
Colomb-Bechar in southern Algeria and in Mauretania.

Colomb-Bechar and nearby Kenadsa are the present terminals of the legendary Trans-Sahara RR, a 19th Century project. The French set out to build a railroad from the Mediterranean to the Niger River, a competitor to the British Cape-to-Cairo line in East Africa. But it never got further than Kenadsa's coal fields.

A "Special Development Area No. 1," staked out around Colomb-Bechar and including the southeast corner of Morocco, has been set up to help industries surmount border and customs difficulties and other forms of red tape. Manganese has been produced in the area since 1925—thus far, over a million tons of ore. Coking coal is being produced in the area at about 275,000 tons a year. High-grade iron deposits have been tapped, but only tapped. Geologists say reserves may total a million tons of 60% metal content ore,



SUPERSONIC DOGFIGHTS?

Navy's new Cougar has what it takes, AND...

this faster, more maneuverable jet is in production at the Navy's new Peconic River assembly plant operated by Grumman Aircraft on Long Island. Modern to the last detail, the plant's distribution and control equipment for electric light and power is Federal Pacific throughout, assuring maximum dependability and providing plug-in power outlets at one-foot intervals wherever machines are used.

Spectacular growth

Federal Pacific in less than a decade has become one of America's major producers of a *complete* line of electrical distribution and control equipment. Much of this growth is the result of advanced engineering and design... introduction of developments that have set new standards for the industry and brought economies and greater service efficiency for the user.

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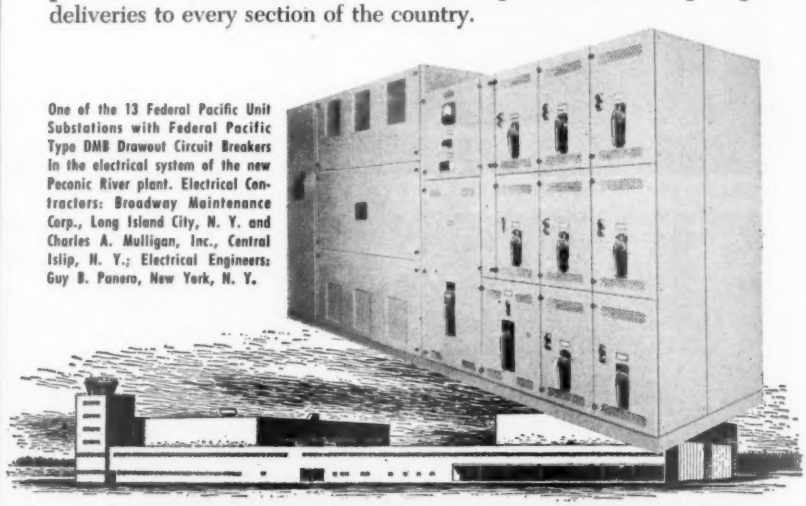
One of the 13 Federal Pacific Unit Substations with Federal Pacific Type DMB Drawout Circuit Breakers in the electrical system of the new Peconic River plant. Electrical Contractors: Broadway Maintenance Corp., Long Island City, N. Y. and Charles A. Mulligan, Inc., Central Islip, N. Y.; Electrical Engineers: Guy B. Panero, New York, N. Y.



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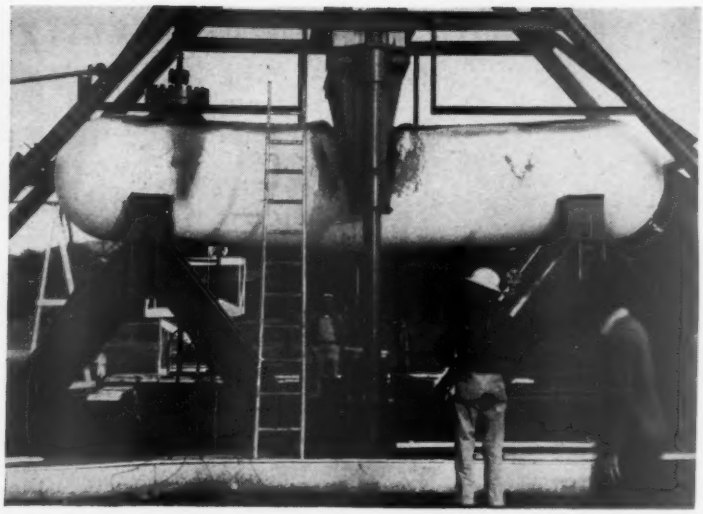
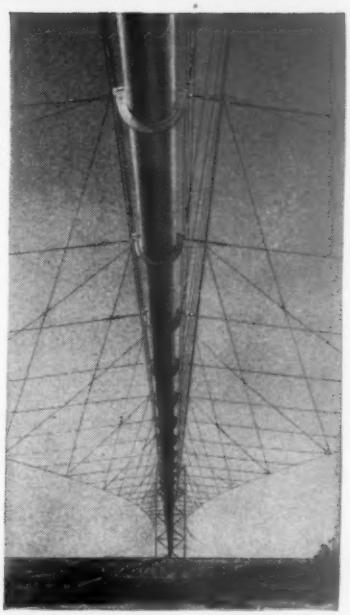


Frozen Steel. Ordinary steel becomes brittle at low temperatures. But U. S. Steel recently introduced a completely new alloy known as USS "T-1"*. This steel retains its strength and toughness at high *and* low temperatures; but even more important, it can be welded without need for heat treatment. The picture shows a "T-1" welded pressure vessel that survived a blow from a 13-ton ingot dropped 73 feet. The tank was chilled to —22° F.

*Trade Mark



Steel Takes to the Air. In Arizona, there's a sandy river bed where flash floods frequently occur. A gas pipe line had to cross the river bed. So, to avoid the flash flood danger, the 30-inch welded gas pipe line took to the air for 1020 feet. Pipe and supporting structure were fabricated and erected by U.S. Steel.

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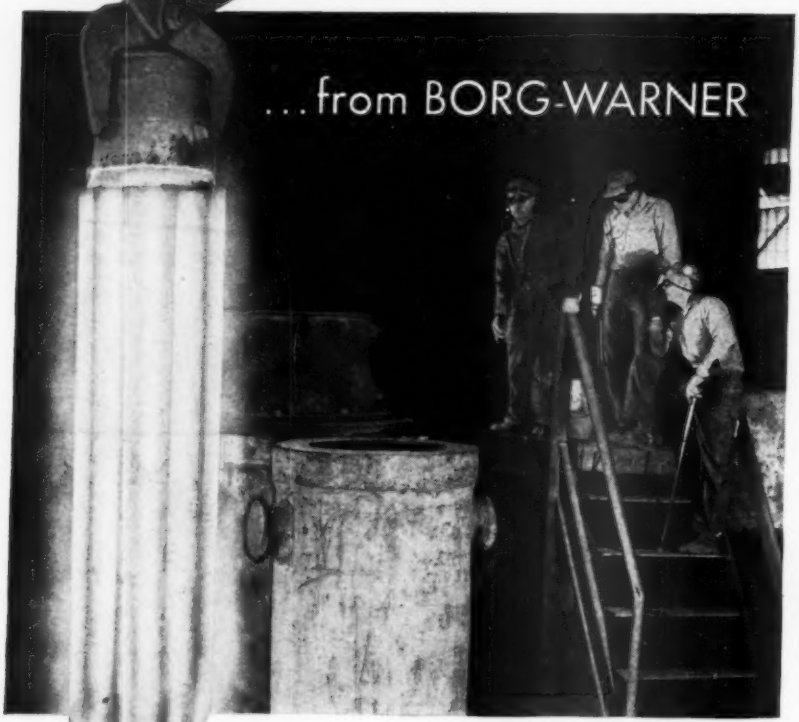

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half of which lies almost on the surface. A project to produce nitrate fertilizers from deposits in the district also under way.

• **Algeria**—To the south and west this region is the beginning of a three-pronged industrial area in Mauretania. At Tindouf, northwestern Algeria—scene of the novel Beau Geste—exploitable iron ore reserves (50% metal content) which may total a million tons, have been located. Further to the south, Ft. Gouraud is the scene of prospecting by MIFERMA, a joint French-British-Canadian development company. Present estimates are that Ft. Gouraud could produce 4.5-million tons of iron ore per year.

Still further south at Akjoujt, copper ore has been found, with perhaps 600,000 tons of metal content in all. These deposits are already being worked by an all-French company, in part financed by a $1.4-million loan in francs from the U.S. Foreign Operations Administration. The company's backers believe it could produce 15,000 tons of copper a year, 16% of France's consumption.

• **Problems**—But Akjoujt's troubles are the same as those of the rest of the Sahara. Mauretania desperately needs a railroad to take its products to Atlantic ports, probably Agadir in Morocco. Agadir's port has been modernized and its facilities expanded by a Dutch contractor.

The French want to build a railroad from Agadir to Tindouf, with a branch line through southern Morocco to Colomb-Bechar. At Port de Nemours, the Colomb-Bechar outlet on the Mediterranean and the terminus for the Trans-Sahara RR, the French are dredging the harbor and building new jetties. When completed in 1956, the port will be able to handle 1½-million tons of traffic annually. But these are only beginnings.

• **Water**—As big a problem as transportation is that of water for Sahara industries. Apart from areas near the mountains, where water retention plans are in operation, little work has been done on the problem.

There is hope for the future, though. There are known underground water resources, rivers fed by the torrential rains that fall on the average of once in 10 years. In some areas brackish water supplies exist, and present experiments for reducing salt content show promise.

• **Entrants**—So far, American companies have not been particularly interested in Sahara industry, although some U.S. interests are known to be trying to invest in the Colomb-Bechar area. Nor has British capital, with its own fish to fry in the farflung Commonwealth.

Can the French swing it alone? It seems hardly likely. The best bet would

probably be joint German-French investment, with perhaps Italian skilled labor thrown in.

INDUFINA, a German firm backed by the Bank of Frankfurt and the State Bank of Bavaria, is already interested. INDUFINA is participating in the Colomb-Bechar nitrates scheme and in Tindouf iron ore, and is pushing a plan to build a German-French-U.S. aircraft assembly plant in North Africa. It has the German government's ear, since INDUFINA's president is Dr. Johannes Semler, former economic minister at Bonn and former delegate from the West German Republic to the Office of European Economic Cooperation. His plans have already been discussed by Mendes-France and Chancellor Adenauer (BW—Oct.23'54,p155).

• **Other Plans**—All this is the basic framework of the Sahara Cult's dream. Here are some of its other plans:

• Oil development. Exploration is now being carried on by four companies—among them Shell Oil Co. interests.

• Solar furnaces to make use of the desert's abundant sunlight. One such furnace is now being built in Algeria to supply power for a nitric acid plant.

• A canal project connecting Tunisian and Algerian swamps with the sea for irrigation, electricity, and transportation.

African Whodunit

The cloak-and-dagger clues to the murderer of a nationalist are a case study in the Moroccan problem.

Who killed Si Tahar Sebti?

On New Year's morning, as he parked his new British Ford in front of his textile shop, 31-year-old Sebti was mowed down by a machine gun. He was buried quickly, in Moslem fashion, the next day. And 60,000 Moroccan nationalist demonstrators turned out in a drenching downpour to follow his bier through the streets of Casablanca, Morocco's biggest city and the largest port in Africa.

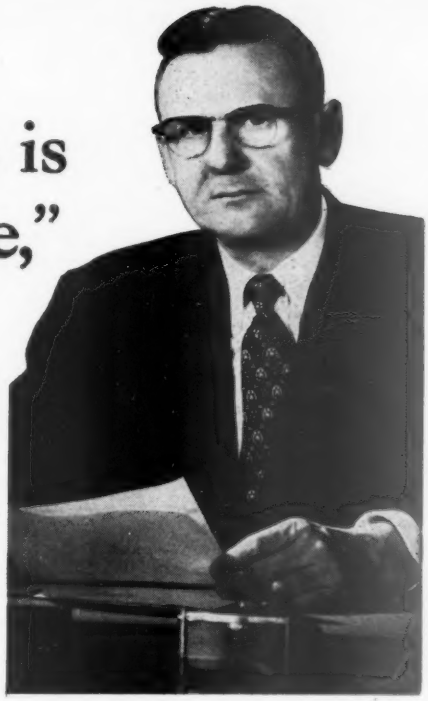
The assassination itself is no less mysterious than the whole muddled mess of Moroccan politics.

• **The Victim**—Si Tahar ben Hadj Mohamed Sebti was the son of a family of wealthy textile merchants living in the ancient city of Fez. Shortly after the end of World War II, he married the daughter of another old family, and moved to thriving Casablanca.

Like so many other Arab members of the Moroccan upper classes, Sebti joined the nationalist movement during the postwar period of effervescence. But Sebti's nationalism was intellectual,

"Our face is our fortune,"

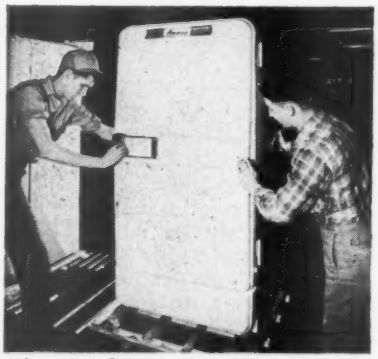
says George C. Foerstner, Amana Executive Vice Pres.



"Or let's say it's a big part of our fortune," continues Mr. Foerstner.

"We prize the flawless finish of our Food Freezers highly — and so do housewives. In fact, as much care is taken in the manufacture of this finish as in any other part of the unit.

"We can't afford to have it marred after it leaves us. That's why we ship all our products in Atlas Plywood containers."



Gleaming beauty. Amana's pride in the shining finish of its Food Freezers is understandable. To protect these gleaming beauties which weigh 300 pounds, Amana sought the advice of Atlas Plywood packaging engineers. It was obvious that, if not properly packed for shipping, the weight could prove destructive when the unit underwent the jolts, bumps and strains of travel. What's more, the inside mechanism could be damaged.

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Amana not only gains protection by this packaging but saves plenty of money besides; the container is light-weight as well as strong and its strength is so dependable Amana can now pack up to the load limits. No waste space in freight car or in storage.

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without too much rancor toward the French who have dominated his country for more than a century. As he took up the textile business of his family, he worked in harmony with French merchants, Moroccan Jews, and Americans.

Sebti's funeral indicates the political strength of Casablanca's Moroccan nationalists. They turned it into a successful political meeting—the third funeral demonstration in two months for a murdered nationalist. While the party quarreled for an hour with the police over which route the cortege should take, the French army moved in a dozen tanks—part of the 5th Moroccan Artillery Regiment that had been repatriated from the Indo-China battleground only two days before.

• **Whodunit**—To most of the demonstrators, there was no question as to who killed Si Tahar Sebti: He was the victim of French counter-terrorists, who acted either with the complicity of the French-controlled police or under their protection. Morocco has a quarter of a million immigrants from metropolitan France. Many of these "colons" are dedicated to maintaining French rule with every weapon at their disposal.

To others, there was an equally simple explanation: Sebti's family—despite its nationalist sympathies—had refused to honor a nationalist boycott of French goods. It had continued to deal with French merchants, and in French textiles. Just a few weeks before his murder, Sebti told friends that the terrorist section of the Istiqlal (Morocco's Arab nationalist independence party) had demanded heavier contributions from his family.

• **Reprisal**—Last October, Sebti's father and uncle hurriedly left for France. While they were gone, their villa in Casablanca was bombed twice. Was Sebti's murder a warning from Istiqlal terrorists to other recalcitrant textile merchants along Casablanca's Rue de Strasbourg? Whether or no, many of these merchants, who have long supplied the financial base for the nationalist movement, have fled to Paris, Tangier, or into the interior. Any place is safer than Casa, the party's stronghold.

The size of the Sebti demonstration was proof that Paris' standstill policy in Morocco has strengthened nationalist forces. In the absence of representative government, or other competent moderate leaders, the nationalists are grouping around the Istiqlal.

Last week French Resident-General Francis Lacoste arrived in Paris to report to Premier Pierre Mendes-France on his progress in "settling" the troubled protectorate. The case of Si Tahar Sebti is as good an indication as any of what he is up against.

Stanvac's Indonesian Oil

It's launching a multimillion-dollar modernization program despite tricky political conditions . . . Soviets may get Finnish refinery contract.

Standard-Vacuum Oil Co., Inc., decided to take a calculated risk last week: It announced a $70-million to $80-million four-year expansion and modernization program for its Indonesian holdings. Stanvac said it would modernize its South Sumatran refinery near Palembang, continue drilling, and build a 90-mile pipeline to haul out its product from the new Central Sumatran fields.

To outsiders Stanvac's investment looked like a gamble. Economic and political conditions in Indonesia are at a postwar low (page 123), complicated by the recent government lunge leftward toward a pro-Communist foreign policy (BW—Jan.8'55,p93).

Stanvac's decision is apparently based on several factors:

• The need to supply its large-scale marketing activities in the Orient and the Indian Ocean with crude from its own fields, in addition to the product that Socony and Standard of N. J.—Stanvac's parent companies—get from their 16% ownership in the new Abadan consortium (BW—Aug.7'54,p26). Stanvac recently opened new refineries at Durban, and Bombay, and will shortly dedicate a new plant near Melbourne. It also has refining and distribution interests in Japan.

• The steady inroads being made in Stanvac's traditional markets by some Persian Gulf producers. For example, British Petroleum Co. (ex-Anglo-Iranian), which has a refinery under way in Western Australia.

• The deterioration of Stanvac's prewar refinery equipment.

Probably what tipped the scales for Stanvac was a new pact negotiated with the Indonesian government. No details have been made public, but it thought to include an agreement to allow Stanvac to keep at least part of its foreign exchange earnings from Indonesian oil exports. A similar agreement is believed to have been reached last year between the Indonesians and California-Texas Oil Co., also operating in new fields in Sumatra.

Though no one talked about it last week, it is certain that Sumatra's oil (along with fields in Borneo and Western New Guinea) is an important factor in Washington's foreign policy planning. How far Washington has gone in giving Stanvac assurances of protection for its investment can only be guessed. But it seems obvious that the U.S. would do everything possible to keep Indonesian oil—the Orient's large reserves—from falling to the Communists.

•

Soviet engineers may build the government-owned refinery recently O.K'd by the Finnish parliament (BW—Dec.25'54,p57). A Finnish negotiating group is now in Moscow.

The original Soviet offer to build the refinery included a guaranteed supply of Soviet crude oil, in addition to credits, equipment, and engineering—including training for Finnish technicians.

Some Finnish officials prefer American or West European builders, but the whole issue is now involved in Finnish domestic politics. It is rumored that acceptance of the Soviet offer would mean Finnish Communist support in the parliament for the refinery project, which is still opposed by the Agrarian Party members of the Social Democrat-Agrarian government coalition. The Social Democrats are determined to build the refinery at all costs as part of their campaign to uphold government controls in international trade, and to save foreign exchange now paid for refined imports.

BUSINESS ABROAD BRIEFS

Better financing facilities for Canadian exporters are urged by James Muir, chairman of the Royal Bank of Canada. He suggests a new corporation, perhaps government-sponsored, to supply credit on longer terms than the chartered banks can handle.

•

International copper production gets a boost next month when Atlas Consolidated Mining & Development Corp. starts production at Toledo, Philippines. The concentrating plant, the largest in the Orient, is on the island of Cebu. Daily production is 200 tons of copper concentrate, 250 tons of pyrites, and $2,000 worth of gold.

•

Nationalization of Volkswagen has been asked by West Germany's trade unions. It now operates under joint Federal-State trusteeship. The unions' demand followed press rumors that Krupp interests were trying to buy the highly successful automobile manufacturing enterprise (BW—Jul.11'53,p106).

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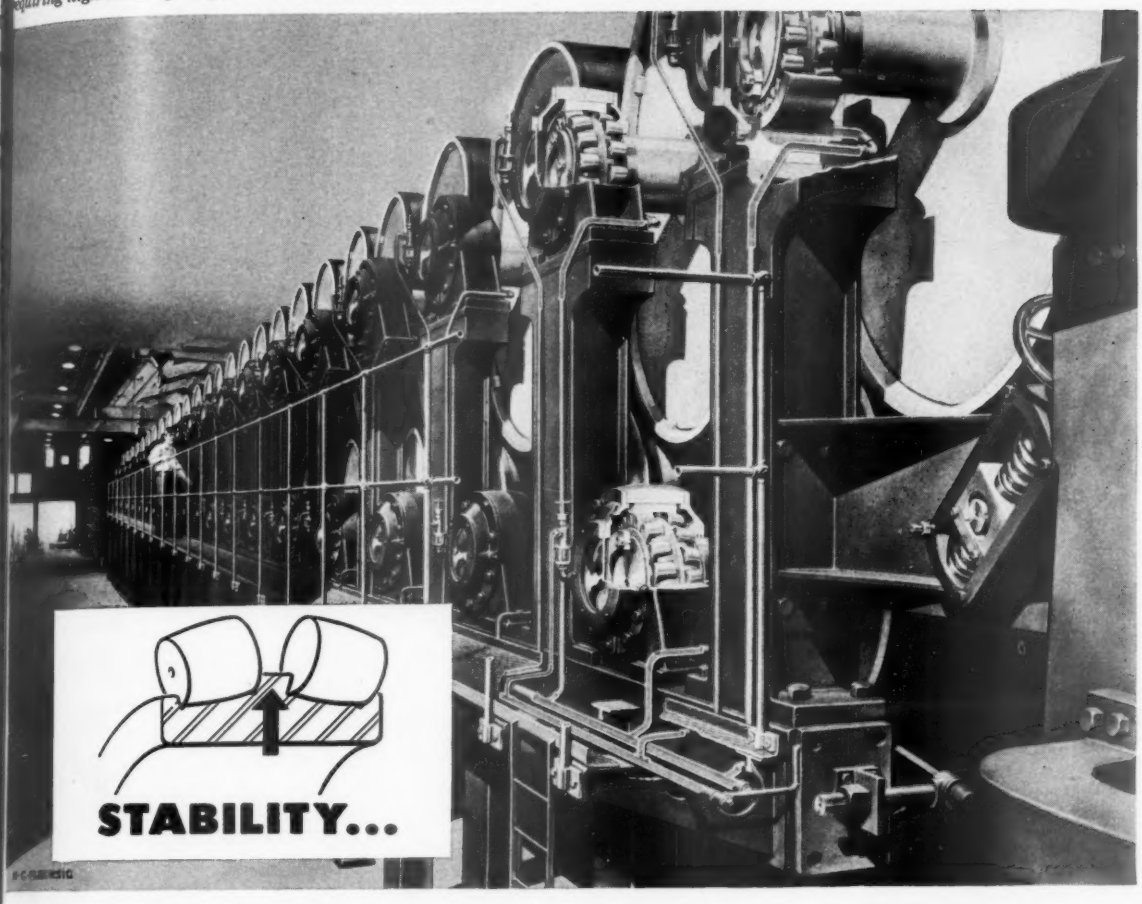

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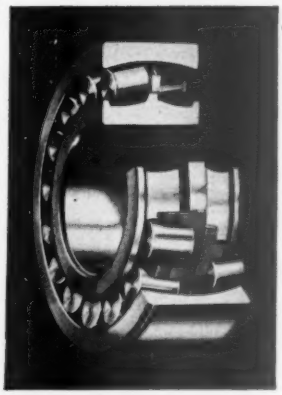

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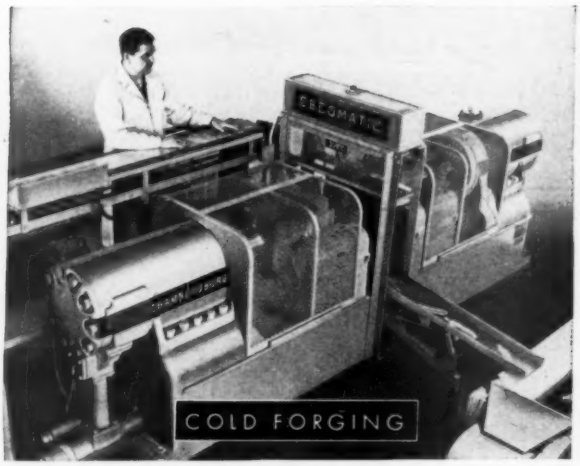

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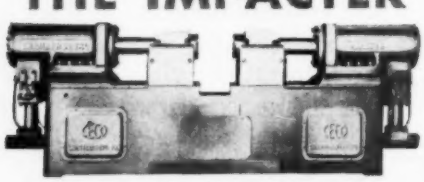

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INTERNATIONAL OUTLOOK

Red China has opened an all-out drive to take the chain of coastal islands that Chiang Kai-shek has held ever since he went to Formosa.

There is no doubt that Peking aims to take the **whole chain** before the year is out, whatever the cost.

If this happens, it's bound to produce a **new phase in the relations between the U. S. and Red China.** For both sides it will become a choice: war over Formosa or a modus vivendi on the issue.

As things stand now **the U. S. is unconditionally committed to defend Formosa and the Pescadores Islands,** which lie much closer to Formosa than to the mainland.

But Washington has refused to guarantee coastal islands such as the Tachen group (now under attack) and the Quemoy group.

Chiang, though, has no choice but to fight for **these islands. He has** held them as stepping stones for a return to the mainland. **To give them** up would shake his army's morale disastrously.

This means that the U. S. probably will stand aside while bloody battles are fought over the islands.

There'll be plenty of opposition to such a policy from Republican Senators like Knowland and **perhaps** from within **the Defense** Dept.

Knowland and his backers **want to keep** Chiang **in a position** where he **can go back to the mainland some day to lead an anti-Communist revolution.**

But Pres. Eisenhower has, in effect, written off such a possibility. He looks on Formosa today as a purely defensive position.

The big question is whether the Chinese Reds will stop with just the offshore islands. If they don't, you can expect a **full-scale** war over Formosa.

But this very prospect probably will make Peking **pause. So it's possible** that you will **end up with what amounts to a cease fire in the Formosa Straits.**

This might be produced merely by a military **standoff.** Or an actual armistice might be negotiated **through** the United Nations.

In either case, the U. S. would then have a drastically different China policy. In fact it would be a "two Chinas" policy.

We would still recognize Chiang's government in **Formosa** and protect it. At the same time we would be giving Red China **de facto recognition.**

—•—

Premier Mendes-France and Chancellor Adenauer **have removed the last big obstacles to ratification of the Western European Union.**

In Baden-Baden last week they ironed out their **differences** over the **Saar.** Mendes-France agreed that the German parties **there should have** more political freedom. This will cut the ground **from under** Adenauer's opponents.

The French and German leaders also managed to narrow their differences over the proposed WEU arms pool.

Meanwhile, Mendes-France reportedly has started dickering to get the Germans—and the British also—to make long-term agreements to buy French agricultural exports.

French agricultural prices are so high that such agreements would involve heavy subsidies for at least several years.

Mendes-France will have a hard time, though, staying in office even for a few months. So he may not be able to do more than lay the ground-work for this agricultural export scheme.

—•—

British industry is running into a severe labor shortage—severe enough to have important economic and social repercussions.

Unemployment is at an all-time low today—250,000. With almost every industry working to capacity, firms compete for labor by offering bonuses above union rates, free meals, and improved welfare benefits.

Foreign workers—Italians, Jamaicans, Pakistanis, Indians, West Africans—are being taken into the work force without opposition from the unions. When ships arrive with immigrant workers, employers send cars to fetch them.

Most important, the labor shortage is forcing many British industries to invest as never before in labor-saving machinery.

—•—

Growing political and economic strength in Western Europe is hurting the local Communist parties, especially the big ones in France and Italy.

Membership has been falling rapidly in the Communist unions as well as in the parties themselves. The Reds have lost control over the workers in big plants like Renault in Paris and Fiat in Turin.

As a result, factional fights have developed both in France and Italy. And the feuding groups in the Kremlin (BW—Jan.15'55,p126) are carrying their differences over into the French and Italian fights.

—•—

At midweek it looked as if the shooting in Central America was petering out—and Jose Figueres would stand firm as president of Costa Rica.

You can set out some tentative conclusions as to the significance of the affair. The prompt action of the hemisphere's peacemaking machinery has had these results:

- Preserved the democratically elected government of Costa Rica.
- Saved the U.S. from taking one-sided action—and being accused of intervention—to help Figueres. The Organization of American States now enjoys increased stature and prestige in the hemisphere.
- Impressed Latin American governments that they'd better be more careful about allowing plots against neighbors to be hatched on their soil.

There are problems remaining. They'll keep Central America troubled in the future.

The Costa Rican show, for example, does nothing to solve the basic bitter differences between the dictatorships and Pres. Figueres. They'll keep sniping at him—and vice versa. And it has done nothing to endear the U.S. to usually strong supporters like Nicaragua, Venezuela, the Dominican Republic—which would like to see the Figueres regime erased.

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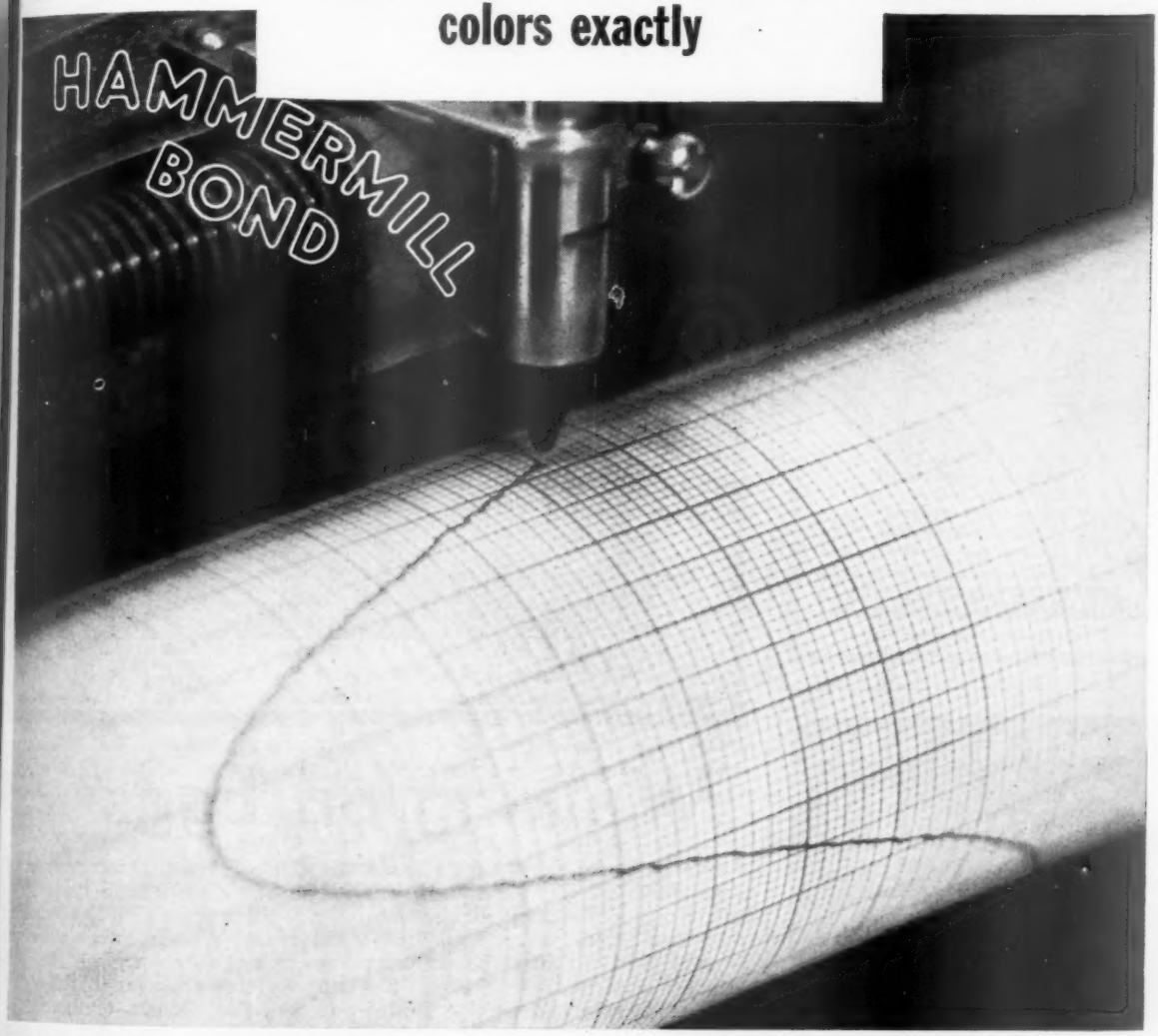

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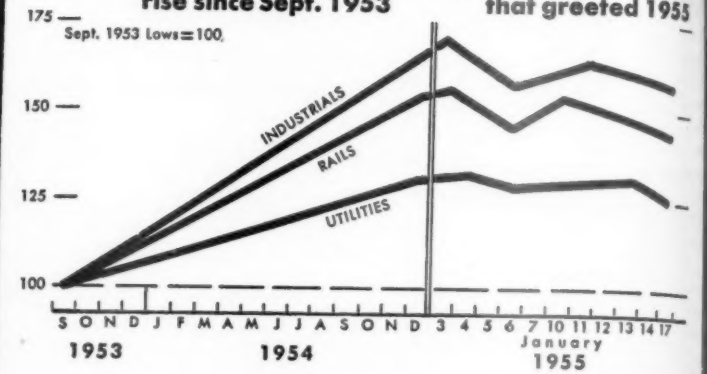
THE MARKETS

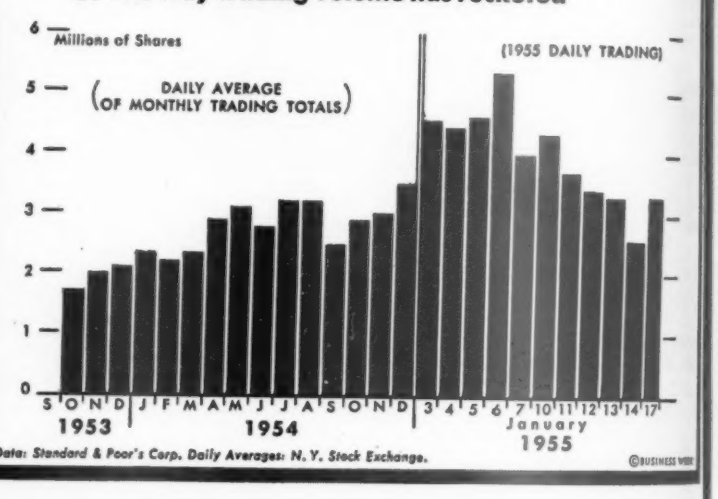
Sen. Fulbright Takes a Look at:

1. The markets sharp rise since Sept. 1953

2. The price break that greeted 1955



3. The way trading volume has rocketed



Data: Standard & Poor's Corp. Daily Averages: N. Y. Stock Exchange. ©BUSINESS WEEK

"Walking on Eggs"

Announcement that the Senate Banking & Currency Committee will conduct a fact-finding inquiry into the current stock market boom (BW—Jan.15'55,p138) threw Wall Street into a temporary state of jitters. But nerves quieted, and stocks showed signs of picking up again as market experts decided that the situation probably isn't so serious as it had first appeared.

For one thing, Robert A. Wallace, the man assigned to direct the Congressional inquiry into the operation of the New York Stock Exchange, says that the inquiry will be conducted in a calmer atmosphere and with little of the circus that accompanied Justice Ferdinand Pecora's investigation of Wall Street activities in 1934.

"We'll be walking on eggs," says the 33-year-old Wallace, an economist who moved over to his new job after serving for some years as legislative aide to Sen. Paul Douglas of Illinois.

The hearings, conducted by Chmn. William Fulbright of the Senate Banking & Currency Committee will start Feb. 21, and will explore the phenomenal rise of the market in the past year and a half.

Wallace's approach to the inquiry illustrates the Administration's view of the market, as well as the dominant thinking of the new Democratic majority in Congress. There are no

threats of exposure and prosecution, and few, if any, Washington politicians want to upset the operations of the market with their questioning.

• **Bipartisan**—Chmn. Fulbright says there is no political motive behind the inquiry. Rather, he says, it is inspired by the almost perpendicular rise in the market over the last 15 months (charts, left). He thinks the "study"—he insists it is not an investigation—will serve the purpose of educating both his committee and the public on the operations of the Big Board, which he terms "the nerve center of American capitalism."

Sen. Prescott Bush (R., Conn.), a member of the banking committee, predicts that the public will collect dividends on the study. Bush, once a partner of Wall Street's Brown Bros. Harriman & Co., points out that the Securities Act was passed 20 years ago to protect the public interest—and now is a good time to determine how well it's working out.

House Speaker Sam Rayburn, who introduced the original securities regulation bill, predicts that the committee won't find any bugs in his legislation. "But it might find some bugs in the way it has been administered," he says, and suggests that the committee take a good look at how it has been policed.

All this creates a sweetness and light that veteran Washingtonians find hard to take at face value. But even the professional anti-Wall Streeters from the South and West haven't been able to stir up too much emotion about the bull market. And obviously the money and credit managers of the Federal Reserve Board and Treasury aren't prepared to do anything drastic. If the token 10-point increase in margin requirements that Fed invoked two weeks ago is a fair sample of the sort of restraint they will use, Wall Street doesn't see much to worry about.

• **Scope**—Even so, the scope of the study Wallace has in mind is all-embracing. Here are some of the things he and his banking committee staff are looking into as they prepare for the hearings:

- Stock price trends over the past 16 months.
- Growth of investment trusts.
- Increase in the institutional purchase of stock.
- The character of the people in the market.
- Cash investment in the market.
- Effect of taxes, particularly the capital gains tax.
- Gimmicks used to popularize stocks—such as installment purchases and stockmobiles.
- Earnings and credit policies.

The committee also wants to study price-earnings ratios. "For example," says Wallace, "we want to look into such things as why the value of certain stocks continues to rise in the face of loss of business and increased competition."

As part of its research, the committee will send out questionnaires to government people concerned with monetary policies, to stockbrokers, investment houses, to those with an academic interest, and to people on the Street.

• **Precautions**—So far, Wallace is using only Congressional economists, but he may bring in some market experts as he gets deeper into the study. There are no plans, however, to bring in an outside counsel to conduct the hearings—as Congress did in 1934 when it tapped Justice Pecora of New York. But Wallace is now perusing Pecora's report and hopes later to consult with him.

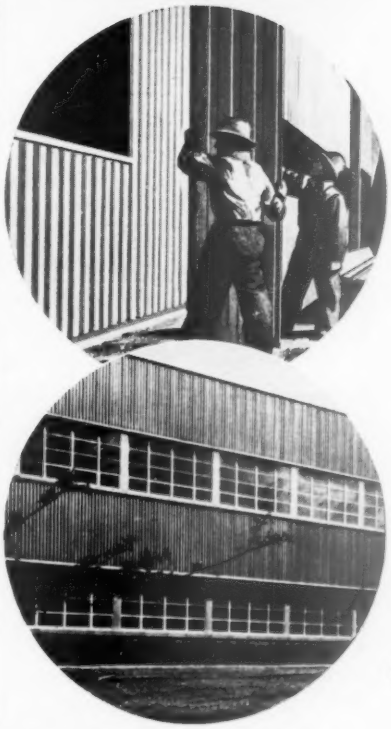
"We'll exert every precaution not to affect the market," Wallace says. He conceded, however, that a report giving the market a clean bill of health might serve to send it higher, while an adverse report might depress it. Both he and Fulbright agree that an objective in the study is to "minimize fluctuations in our economy."

• **Reaction**—The first day after Fulbright's announcement of his intended inquiry, the market showed extreme price weakness. Some blamed this drop on the news. More likely, however, it only accentuated the earlier weakness. For some time, many Streeters had been warning that the market was overdue for a correction. This, they thought, might result in a drop of as much as 10% in popular market indexes that, two days earlier, had ushered in 1955 by rocketing to all-time highs.

G. Keith Funston, president of the New York Stock Exchange, conferred with Fulbright, and says he is pleased to have a chance to educate the public on the functioning of the exchange.

The Joint Committee on the Economic Report, headed by Sen. Douglas, expects to remain on the sidelines. Most members of this committee are members of the banking committees of the two houses. Rep. Wright Patman (D., Tex.) says he plans to ask the government fiscal experts some questions on the relationship of the market to the general health of the economy, when the experts come before the committee this week to testify on the President's economic report. But Patman pointed out that this will cover only a small area of the Joint Committee's interest, and won't comprise a significant part of the hearings.

Read about Q-Panels



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Timetable for 1955 Bargaining

Eyes Will Be on Auto Annual-Wage Negotiations

INDUSTRY	COMPANY	UNION OR UNIONS	CONTRACT EXPIRES OR REOPENS	1954 WAGE TERMS*
Coal	All producers	Mine Workers (Ind)	On 60-day notice	0
Rubber	Goodyear Tire & Rubber Co.	Rubber Workers (CIO)	February	6½¢
	General Tire & Rubber Co.	"	March	6½¢
	U. S. Rubber Co.	"	March	6½¢
Textiles	Fall River-New Bedford Textile Mfrs. Assn.	Textile Workers (CIO)	March	0
Meatpacking	"Big Four" companies	AFL, CIO, Independents	March or later	5¢ & fringes
Glass	Pittsburgh Plate Glass Co.;	Glass Workers (CIO)	May	Fringes only
	Libbey-Owens-Ford Glass Co.	"	"	"
Automotive	General Motors Corp.	Auto Workers (CIO)	May	5¢ less 2¢ c-of-l
	"	Electrical Workers (CIO)	May	5¢ less 2¢ c-of-l
Elec. Mfg.	Philco Corp.	Electrical Workers (CIO)	May	6¢-8½¢
	Radio Corp. of America	CIO, AFL, Independents	June	4½¢-5¢ & fringes
Automotive	Ford Motor Co.	Auto Workers (CIO)	June	5¢ less 2¢ c-of-l
Shipping	Atlantic, Gulf ship lines	Maritime (CIO)	June	Fringes only
Steel	U. S. Steel Corp., Bethlehem Steel and others	Steelworkers (CIO)	June	5¢ & fringes
Shipbuilding	Bethlehem Steel Shipbuilding Works	Shipbuilding Workers (CIO)	July	5¢ & fringes
	New York Shipbuilding	Boiler Makers (AFL)	July	3¢-5¢
Farm Equip.	Caterpillar Tractor Co.	Auto Workers (CIO)	August	6¢ & fringes
Automotive	Chrysler Corp.	Auto Workers (CIO)	August	5¢ less 2¢ c-of-l
Nonferrous	American Smelting & Refining; Kennecott Copper	Mine-Mill (Ind)	August	5¢ & fringes
Aluminum	Aluminum Co. of America; Reynolds Metals Co.	AFL & CIO	August	5¢ & fringes
Elec. Mfg.	General Electric Co.	Electrical Workers (CIO)	September	5¢ & fringes
	Westinghouse Electric	CIO & AFL	September	5¢ & fringes

*Bargaining terms and other data from Bureau of Labor Statistics.

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Unions Get Set for a Squeeze Play

The 1955 bargaining round is under way this week.

Not many strikes are in progress, but hundreds of contracts, mostly of local importance, are being negotiated all over the country.

More significantly, initial steps in two situations—both big enough to influence the year's pattern—have already been taken:

In rubber, the first bargaining conference between CIO's United Rubber Workers and Goodyear took place in Cincinnati. After some preliminary sparring, the conferees recessed, but not for long. They have a Feb. 10 deadline (table above) for a new agreement, with some major problems to settle in the meantime (BW—Jan.15 '55,p146).

In autos, delegates from last week's big union bargaining rally in Detroit are back in GM and Ford plant towns. They are preaching the guaranteed annual wage gospel to the rank and file, and holding local meetings to report on changes in existing contracts clauses that union leaders will press.

The regular pre-negotiation meetings of UAW's GM and Ford departments showed what to the union's top officers was a very satisfactory unanimity. Now, Walter Reuther looks forward to the

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How would *you* shield a complex, static-sensitive hunk of machinery from stray electric charges and still keep its innards open to inspection?

That's a problem IBM faced in designing their now-famous electronic calculator—and solved with E-C glass. Ordinary glass wouldn't do. It wouldn't keep electrons in line. Metal would have been ideal for the shielding job, but not so good for seeing through. E-C coated glass does the one and allows the other.

E-C coated glass is a PYREX brand glass. It stands up well under physical and thermal shocks. But its main claim to fame is the transparent, conductive coating (about 20-millionths inch thin) that's permanently bonded to one side of it. It's this coating that keeps static charges from gumming up IBM's complex circuits busy calculating.

But there's more to E-C coated glass than shunting off unwanted electrical charges. Run a current through it and you've got a heating element that gives forth with a *uniform*, dry, controllable, radiant heat, up to 350° C. The emphasis is on *uniform*—no furrows of heat with coolth in between; no dead spots.

This uniform heating element is already at work in medical sterilizers, drying ovens, room heaters, chicken brooders.

And here's a third kind of application. Turn an E-C panel around and you have a highly efficient heat *reflector*. A well-known steel company protects shear pulpit operators from the fiery heat of billets in process with transparent E-C panels.

Product or process—the potential of E-C coated glass hardly seems tapped. We've learned a lot about it that we'd be glad to share with you.

Multi-aptitude problem—So many folks have exhibited so much interest in the ability of our VYCOR brand 96% silica glasses to survive, unscathed, wide temperature variations (quick switches from below freezing to 1800° F. or higher) that its other attractions for a designer may fall into oblivion.

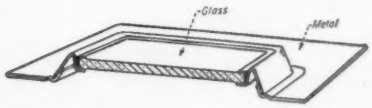
This we don't want to happen, and you might not either. Actually, there are seven VYCOR brand glasses available today—all high silica, but each compounded to develop specific aptitudes. Glass 7911, for example, we control especially for uniform, high transmittance of short-wave ultraviolet. It has notably high electrical resistivity, too, and low power loss. Glass 7910 meets germicidal lamp requirements for transmitting ultraviolet at 254 millimicrons. Glass 7950 will absorb most of the visible light from a tungsten filament (2700° K.), but let infrared radiation pass freely.

Our brand new bulletin B-91, "VYCOR brand Industrial Glassware by Corning," completes the story with all the basic data we can put in print about all seven VYCOR brand glasses—with curves and illustrations. It just might stimulate an application idea or two for you. Would you like a copy?

On becoming attached—Nothing personal—just a first step, we hope, toward informing you about ways of attaching glass to metal.

We've found a lot of our customers have more than a passing interest in this subject. We do too, as you might imagine, what with some 50,000-odd formulas for glass hankering to be put to new uses.

Below, for example, is *one* of the "recommended methods of attaching glass to metal structures"—from a bulletin of that name!



This particular one is a soldered joint between glass and metal. The glass panel has a metallized edge to accommodate soldering to the metal frame.

The brochure (actually an editorial reprint from "Product Engineering") shows some 16 other types, including threaded joints, pressure-tight joints, spun-metal joints and electrical connections. We'd be delighted to send you a copy.

* * * *

Which brings us to our basic theme—glass itself. That's a world amazing even to those of us who spend most of our waking hours exploring its apparently endless boundaries.

What progress we've made to date, mostly working with folks who have materials problems to solve, is spelled out in a little volume we've offered before and offer again in light of the sustained demand for it. A copy of "Glass and You" will show how this centuries-old material fits 20th century technology. It's a good starting point for getting acquainted. May we send you a copy?

Corning means research in Glass

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Please send me the information checked below:

☐ E-C glass; ☐ "VYCOR brand Industrial Glassware by Corning"; ☐ "Methods of attaching glass to metal structures"; ☐ "Glass and You"; ☐ Send a representative to call on me.

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8 hours, 43 minutes cut from ONE metal finishing job on a SINGLE Aircraft part.

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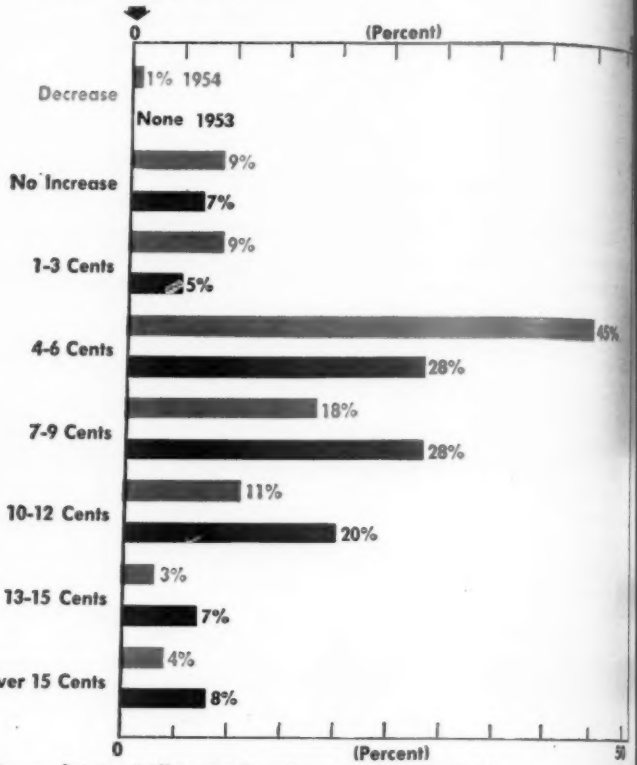
WHEN YOU WANT TO
INFLUENCE MANAGEMENT MEN

For Wages: 1954 Was a Modest Yea

1954* wage settlements ranged lower than 1953

Here's How They Stack Up:



* Data: Bureau of National Affairs: 3,788 settlements analyzed for 1954; 4,497 settlements analyzed for 1953

ANALYSIS of wage settlements over the past two years gives another reason why 19[illegible] will be a hard bargaining year. Facing a brighter business outlook, many unions will [illegible] for big concessions to help compensate for last year's moderate gains.

May 29 contract expiration date with GM and the June 1 date with Ford. He's counting on a well-rested seven years without a major strike and determined membership.

• **Forecast**—This early in the season, forecasting figures is pure guesswork. But one broad prediction can be defended: It's going to be a tough year for management. Big employers already are figuring either on strikes or on sharp increases in labor costs. Either way, it's expensive.

But talk about companies and industries being thrown into bankruptcy by annual wage demands is needlessly alarmist. Most unions will be content to settle on formulas that can be represented to the membership as a "beginning." The really expensive incidence of such programs is probably years away, and will be reached in stages as contracts expire, and through bargaining that jacks up the number of workers covered and the level [illegible] coverage.

• **Uncertainty**—Even now, there is [illegible] question as to how many unions echo ing annual wage slogans are serious about them. Among the labor profes sionals, the annual wage demand is considered prime trading material in 1955. Only the last-stage haggling, however, will show how extensive GAW will be exchanged for wage and welfare concessions.

At this stage of the game, only the United Auto Workers seem sure to strike on the GAW issue. Reuther's organization is acting as though it has passed the point of no return on this one. Nor will a token gain—such as the establishment of a GAW fund—be enough.

Some Detroit observers maintain that Reuther is now so far out on a limb that the only contract he can sign without GAW would be one forced on

NEW space-saving, high economy, big capacity COE models—3 series, 12 models from 21,000 to 30,000 lbs. GVW—50,000 to 65,000 lbs. GCW. Also available with Sleeper Cab.

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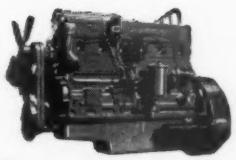

NEW increased power, with all-new 201-hp Royal Red Diamond 501 engine standard in new high-power-to-weight 220 Series models.

NEW factory-installed 50-inch one-man cab that permits balanced, 2-side loading of steel, lumber, pipe and other longer-than-truck materials.

PLUS four-wheel-drive models of 11,000 and 15,000 lbs. GVW—built for lowest cost operation in roughest, toughest terrain.

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PLUS factory-installed, Underwriters approved LPG power, available as optional equipment in 54 models in GVW ratings from 4,200 to 45,000 lbs.

PLUS 10 diesel engines for 30 models. The INTERNATIONAL line of 185 basic models offers widest choice of power—30 engines, gasoline, LPG and diesel.

NEW power steering for all models. New light-duty truck features include tubeless tires, optional automatic transmission and overdrive.

NEW multi-stop models with METRO® bodies—14,000 to 16,000 lbs. GVW. 10 other models—5,400 to 11,000 lbs. GVW—with METRO and METROETTE bodies available with new METRO-Matic transmission.

NEW RF-230 60,000 lbs. GVW six-wheeler added to line of 24 six-wheel models—all with new maintenance reducing, extra rugged rubber-bushed bogie.

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INTERNATIONAL TRUCKS

"Standard of the Highway"

UAW'S WALTER REUTHER stresses to Ford workers the need for guaranteed employment and better welfare programs.

him as the result of losing a long strike.

• **GM's Formula**—Yet the auto picture is not all so dark. On the record, GM has been highly inventive in the past, offering UAW such attractive packages that the union could not refuse, even though it meant junking pet schemes. That's how GM got the five-year contract it wanted, complete with cost-of-living wage formula.

This was achieved after Reuther appeared committed in the spring of 1950 to a short-term contract without a cost-of-living escalator. Another irresistible package may be GM's answer to the GAW demand this year. Traditionally, the company's generosity has been limited only by its economic situation and by its concept of what would curtail its right to manage. For 1955, its economic situation is good, and how far the employment guarantees UAW seeks invade GM's managerial prerogatives is company decision.

• **Pressure**—Another factor, present for the first time, will have some still undetermined influence on GM.

GM and Ford union contracts expire within two days of each other. That's closer in time than they have ever been. Should Ford—which has been studying the annual wage problem—come to a settlement with UAW while GM is deadlocked, pressure on GM to take the same deal rather than lose the summer automobile market will be tremendous.

• **Warming Up**—That bargaining preliminaries are really warming up is apparent in a new wave of tumult in plants. Detroit has now learned that, other things being equal, the number of labor disturbances in a company varies inversely with the days remaining in the contract.

The largest part of the industry has been under a continuing labor contract now for nearly five years. Last week you didn't need a copy of the GM and Ford pacts to tell that they were drawing close to their expiration. There were other signs:

• A two-day strike at the Ford truck plant in Highland Park, Mich.

• A strike at the Ford Motor Co. Lincoln-Mercury plant at Metuchen, N. J.

• Approval of a strike vote at GM's Oldsmobile Div. of Lansing, Mich.

• Approval of a strike vote at GM's Pontiac Div., also at Pontiac.

• Approval of a strike vote at GM's Oldsmobile Div. at Lansing, Mich.

• **Union Strategy**—There are real issues involved in the strikes or threats of strikes—such things as new rates for work on automatic machines; speedups; pyramiding grievances. However, the issues are not so important as the strategy. For nearly five long years, the companies and union have been relatively friendly. Now comes the time—before they have to sit around the table on initially irreconcilable viewpoints—for each side to restore a combatant spirit. Thus union leaders get their backs up over things they would have taken a patient attitude toward a year ago, and management hardens its approach to labor relations.

The union's Detroit conferences [illegible] GM and Ford plant delegates [illegible] their own place in this strategy. The [illegible] were a combination of pep meeting [illegible] working sessions on detailed demand [illegible] and another battle in the war of nerves against the companies. Neither [illegible] nearly 300 delegates at the GM confer[illegible]ence in the Hotel Detroiter (including observers from the electrical worke[illegible] and the rubber workers whose demands on GM this year will parallel those [illegible] UAW), nor the 127 at the Ford meet[illegible]ing in the Veterans Memorial Bldg[illegible] heard anything new about UAW's ma[illegible]jor goal, the guaranteed employment plan. Most of them had been present at the big UAW economic conference in November (BW—Nov.20'54,p166) and already knew all the UAW chiefs are prepared to tell anyone at this time about details of the employment (or guaranteed annual wage) plan.

• **Aims**—Reuther addressed the meetings, speaking in general terms on the necessity for achieving the union's aims for guaranteed employment, better pension plans, health insurance, and economic benefits. John W. Livingston, UAW vice-president and director of the GM department, urged the delegates to support the program adopted at the economic conference (which, of course, they did). Ken Bannon, director of the Ford department, gave his men a fight talk, assailing the company and promising that the 30-hour week (pet of big Ford Local 600) would be next on the list.

Then the delegates took over to cite omissions in the present contracts that

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The American farmer is demanding more and more nitrogen fertilizers . . . and with good reason. If his land lacks nitrogen, ammonia's chief ingredient, the fertilizers not only *increase* his yield, but often *double* it. No wonder he takes all he can get.

To help meet a demand which has increased 10-fold in the last five years, the new ultra-modern ammonia plant of National Distillers' U. S. Industrial Chemicals Co. division began production recently at Tuscola, Illinois, with initial capacity of 50,000 tons a year. Strategically located in one of America's great farm regions, the plant will be a major source of fertilizer nitrogen compounds. Its giant cousin next door, National Distillers' subsidiary—National Petro-Chemicals, supplies the hydrogen from which its anhydrous ammonia, nitric acid and ammonium nitrate solutions are made.

Industry, too, is taking increasing amounts. For example, the newer textile fibres like nylon and Orlon are partly based on ammonia. And it is widely used for synthetic resin production.

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OLD GRAND-DAD, OLD TAYLOR, OLD CROW, KENTUCKY STRAIGHT BOURBON WHISKIES, BOTTLED IN BOND, 100 PROOF. • PM BLENDED WHISKEY, 65% GRAIN NEUTRAL SPIRITS, 86 PROOF. • OLD SUNNY BROOK KENTUCKY WHISKEY—A BLEND, 65% GRAIN NEUTRAL SPIRITS, 86 PROOF. GILBEY'S DISTILLED LONDON DRY GIN, 100% GRAIN NEUTRAL SPIRITS, 90 PROOF. • BELLOWS PARTNERS CHOICE WHISKEY—A BLEND, 60% GRAIN NEUTRAL SPIRITS, 86.8 PROOF. • HILL AND HILL, BOURBON DE LUXE, BOND & LILLARD, OLD HERMITAGE, KENTUCKY WHISKIES.

they want corrected in either the master or supplemental agreement this year. To catalog these detailed demands was the main purpose of the concurrent meetings, and everyone knew it. But the meetings gave UAW another opportunity to try to keep GM and Ford off balance.

You could sense it in the keynote statements. Livingston told the GM delegates that the "closest of harmony and coordination exists between the Ford department and the GM department, and will continue as an effective means of maximum bargaining effectiveness." He might just as well have told the companies: "Don't try any diversionary tactics; both negotiatiating teams are going to stick to the main issue."

Bannon told his people that this year local agreements (which are supplements to the master companywide contract) can be reopened at the same time as the master agreement, and that "such negotiations will run concurrent with the national negotiations." He might just as well have told Ford: "Don't try to stall on the master agreement beyond the expiration date to turn out cars as a hedge against a strike; we can strike local plants."

• **Smart Timing**—The timing of the meetings in itself was significant. Holding both the GM and Ford meetings on exactly the same days gave UAW a chance to underscore a major aspect of the 1955 negotiations: They will be under way with GM and Ford at the same time; therefore, there is no percentage in either company calculating that perhaps the other will be first to be hit by the GAW demand, or be the first to be struck.

• **Strike Odds**—UAW spokesmen said last week they honestly do not know which company will be first to be struck—if a strike is necessary. All they know is that both GM and Ford will be served the identical major demands at approximately the same time. Whichever shows most recalcitrance as the contract expiration date nears will be the most likely candidate for a strike.

Some UAW people last week were hinting that a strike would not be necessary. Their optimism—for what it's worth—was built on the prospect that GM would agree to some form of annual employment thereby compelling Ford to give in. They pointed to reports that GM has a special task group working up GAW figures as a preliminary to a GM counterproposal on the issue.

One UAW man, when reminded that GM's president, Harlow Curtice, had once indicated that he thought unemployment compensation fulfilled the requirements of a guaranteed annual wage, replied, "He hasn't been talking that way lately, has he?"

For Labor: Friends Who Coun

Majority members of the new Senate and Hou Labor Committees are almost exactly the ones that A and CIO would have picked.

If organized labor's political experts had picked the majority members of the new Congressional labor committees, they could hardly have been closer to heart's desire than the selections by Democratic leaders. All but one had union support in the last election.

The line-up of the Senate and House Labor Committees is far more liberal than the general make-up of Congress. As a result, the committee majorities will espouse some sweeping labor and welfare legislation but, for the most part, it will probably be entrapped by more conservative colleagues, both on the committees and in the Senate and House.

• **Pitfalls**—There are many pitfalls in the way to success. One such could be Rep. Graham A. Barden of North Carolina who returns to his post as chairman of the House Labor Committee. Barden, wise to the ways of the legislative blockade, has been a stubborn opponent of the type of social legislation his fellow Democrats will seek to promote.

However, Speaker Sam Rayburn has added six new members to Barden's committee to make a total of 15 who have voted labor's way enough to win the support of the CIO's Political Action Committee. Even without GOP support, they could put through any measures that get to the committee.

On the Senate side, the picture is even more one-sided. Besides the six holdover liberals, the Democrats have added Patrick V. McNamara, a former Michigan labor official. On the Republican side, there's Irving Ives of New York who is expected to vote with labor on most issues.

• **Agenda**—Here's what the two committees will be considering and the chances of passage:

Taft-Hartley. Eisenhower's 14-point program of minor amendments falls far short of union demands and will probably be sidetracked, as it was last year. Labor supporters will support sweeping changes, but won't win.

Minimum wage. The President's 90¢ proposal seems likely of passage but there will be bipartisan pressure by legislators from industrial states to up this to $1. Extension of coverage to retail and service trades has a slight chance of committee approval because of the liberal committee line-ups.

Federal school construction. The White House took the play away from the Democrats by proposing legislation to correct the shortage of classroo Administration support makes this likely winner though the fight will over financing through federal grants- aid or federal guaranteed loans.

Health. The Administration's pr gram for federal re-insurance of hea programs to prevent participants fro losing benefit rights is being renewe Democrats will seek more extensi federal aid to health but this may fa as it has in past Congresses.

Labor can thank Eisenhower fo some of the legislative changes tha will be made. The President's initiation of minimum wage, health, and schoo construction programs means at leas minor victories.

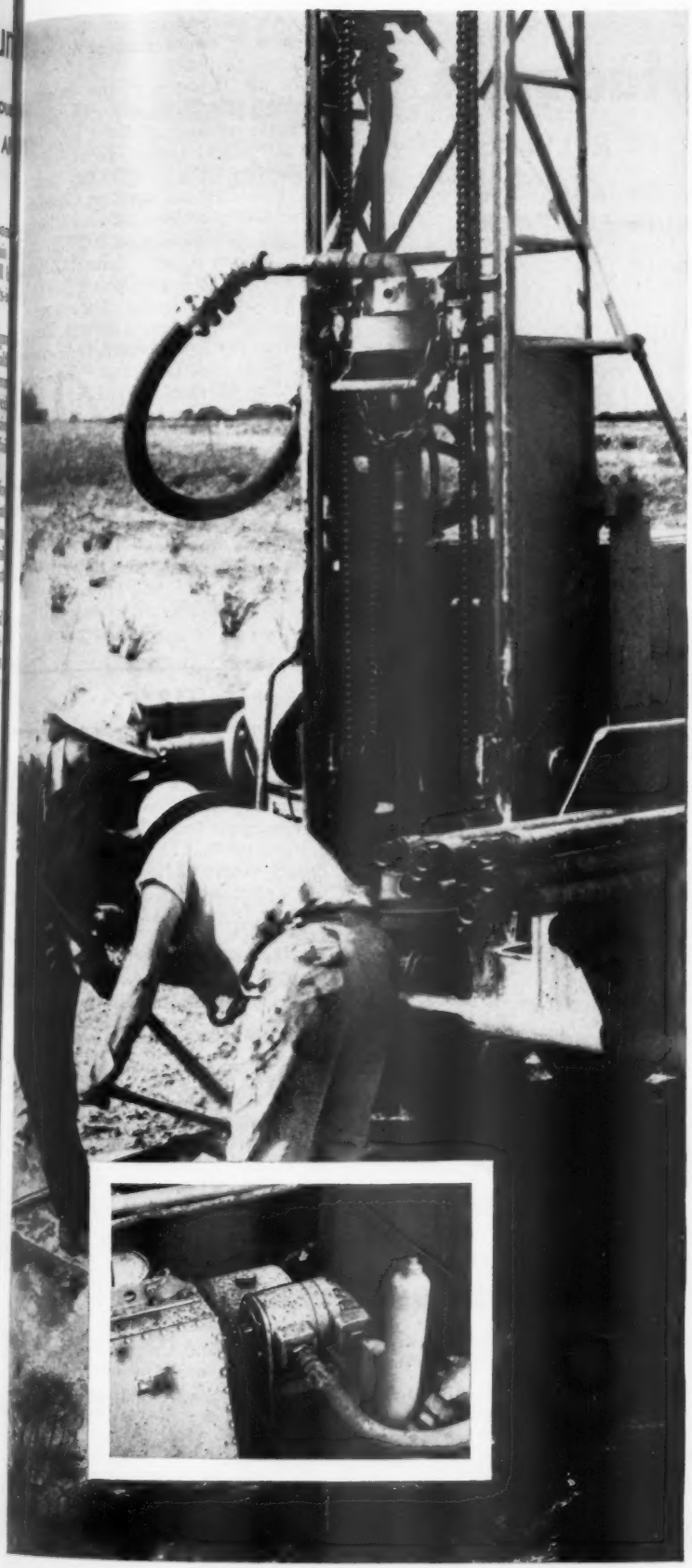
• **Labor's Opinion**—But the House an Senate Labor Committees will be seeing much more than Eisenhower ha to offer, and the impetus may carry Congress further. Take the Senate Labor Committee, with the AFL Machinists' estimate of the personnel:

Chmn. Lister Hill (Ala.), "voted 100% right in last Congress"; James E. Murray (Mont.), "long-time friend of labor"; Matthew M. Neely (W. Va.), "down the line for labor"; Paul H. Douglas (Ill.), "a fighter for a square deal for everyone"; Herbert H. Lehman (N. Y.), "a stubborn liberal"; John F. Kennedy (Mass.), "led in fighting for improvements in the nation's unemployment compensation"; McNamara (Mich.), "AFL pipefitters officer."

Less generous estimates were reserved for the Republican members except Ives who merited an IAM appraisal of "one who often supports the position of labor." Others are H. Alexander Smith (N. Y.), chairman of the committee last year; new appointee Gordon Allott (Colo.); and those labeled as anti-labor: William A. Purtell (Conn.), Barry Goldwater (Ariz.), and George H. Bender (Ohio), who as a House member investigated union corruption last year.

• **Candidates**—The Senate group also passes on White House candidates for federal labor posts and here the liberals promise to make trouble. They're threatening a fight over the nomination of Theophil Kammholz as general counsel to the National Labor Relations Board, an agency Democrats plan to rake over the political fires. There's also an NLRB membership to fill.

Other appointees coming before the committee are Joseph F. Finnegan as



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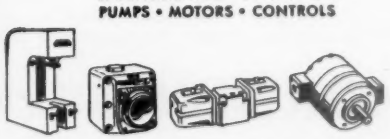

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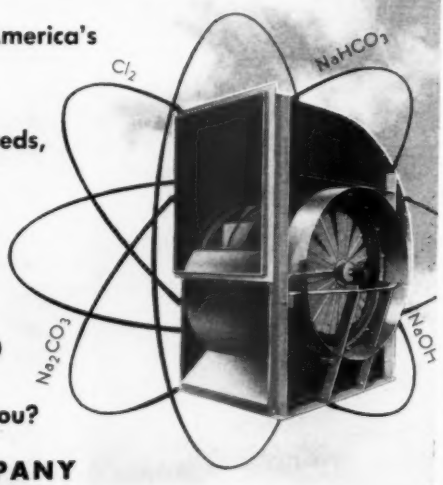

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NORTHWEST *Orient* **AIRLINES**

Director of the Federal Mediation Conciliation Service, and the yet designated Commissioner of the Bur of Labor Statistics.

On the House side, the appointe include Frank Thompson, Jr., (N. J a charter member of the CIO Uni Auto Workers Local 731 at Trent whom the CIO describes as "one the three CIO members in Congres Other new members are Earl Chudo (Pa.), James Roosevelt (Cal.), Mr Edith Green (Ore.), Herbert Zelenk (N. Y.), and H. B. McDowell, Jr. (Del.

The holdovers are Augustine B Kelley (Pa.), Adam Clayton Powe Jr. (N. Y.), Cleveland M. Bail (W. Va.), Carl D. Perkins (Ky.), Ro W. Wier (Minn.), Carl Elliott (Ala Phil M. Landrum (Ga.), Lee Metcal (Mont.), and James B. Bowler (Ill.). The Republican members, not officially an nounced at midweek, are expected to show about the same line-up as in the last Congress, when they were led by Samuel K. McConnell, Jr. (Pa.) and in cluded Ralph W. Gwinn (N. Y.), Wint Smith (Kans.), Carroll D. Kearns (Pa.) Harold H. Velde (Ill.), and Clare E. Hoffman (Mich.), all conservatives.

LABOR BRIEFS

AFL's teamsters won pay hikes totaling 26¢ an hour—or comparable adjust ments in mileage-pay rates for those driving more than 200 mi. a day—over a 3-year period. The pact covers 54,000 drivers employed by 4,000 companies in 12 Midwestern states. Employers also agreed to pay $2 a week per driver into a new pension fund; to raise in surance contributions 25¢ a week, to $2.25; and to assure drivers at least $75 a week—even if some drivers have to be laid off.

•

Another $1-million investment in Montgomery Ward & Co. common stock was reported last week by AFL's Teamsters. The purchase, with money from jointly-administered welfare funds set up under Central States Council of Teamsters contracts, is "strictly an investment," trustees said. A few weeks earlier, two other Teamsters welfare funds put $1-million into the company's stock (BW—Jan.1'55,p56).

•

In Canada, the United Auto Workers (CIO) postponed indefinitely plans for a strike vote among employees of Chrysler Corp., in Windsor, Ont. UAW workers have been on strike against Ford Motor Co. of Canada, Ltd., since Oct. 10, and UAW said it did not want strikes in Canada against two "Big Three" companies at the same time.

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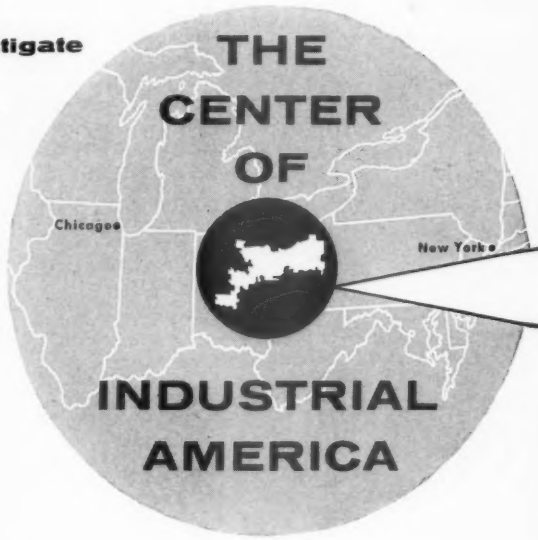

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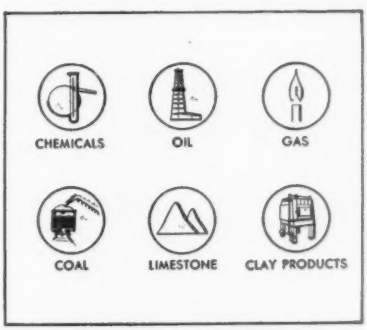
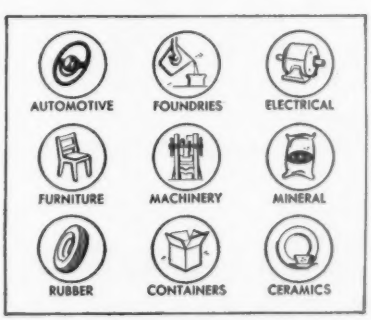


RAW MATERIALS from within and near the area to supply your needs: oil, coal, minerals, water, chemicals, and plenty of power are available here in THE CENTER OF INDUSTRIAL AMERICA.



PROCESSED MATERIALS from basic suppliers and subcontractors make this an ideal location for assembly plants, conversion industries and distributing warehouses. Isn't this what YOU seek? Send coupon.

© 1954, O. E. CO.

How to get advertising space money can't buy

Can you imagine a top executive—your customer—hanging your latest ad in his office and keeping it there for a year? He will, and gladly, if your advertising message is presented on a Shaw-Barton calendar from the Executive Group. These striking calendars are top-bracket in every respect, and feature the finest color art in America.

The 1956 line is being introduced now; it will pay you to investigate the Shaw-Barton Executive Group to build sales and prestige for your company. Ask our representative about quantity prices and territory franchise, or write direct.

SHAW-BARTON

Calendar and Specialty Advertising

GENERAL OFFICES AND PLANT, COSHOCTON, OHIO
SALES OFFICES IN PRINCIPAL CITIES

GOOD AND FAST!

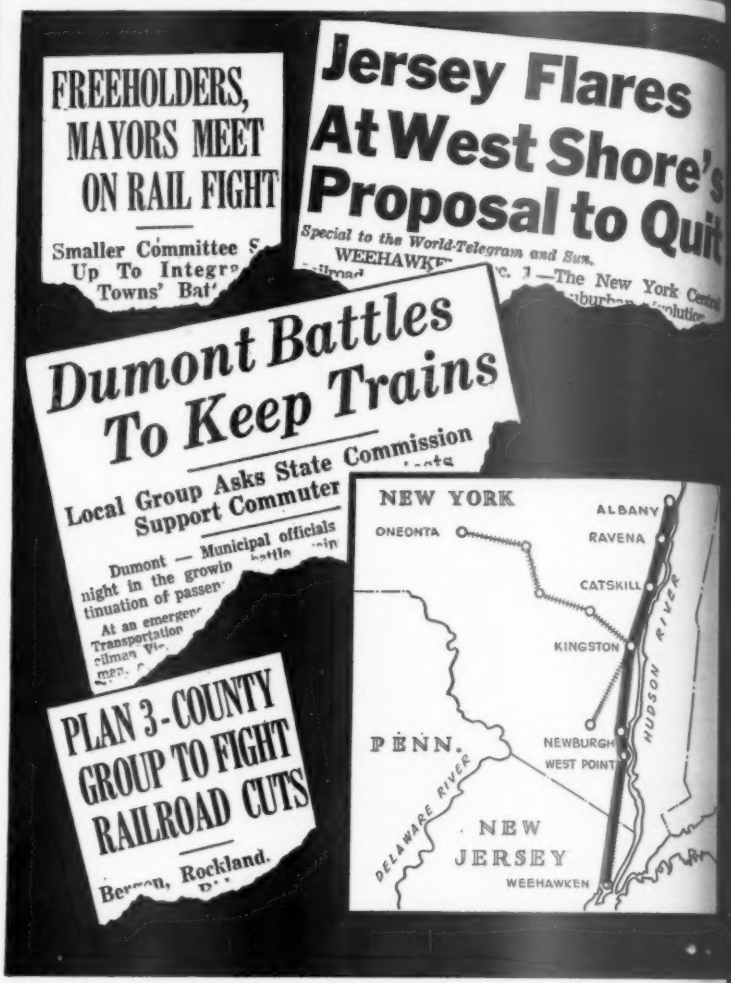
That's how a rivet fastens — and that's what Milford service is—from 5 Milford plants and 19 Milford offices. Try us and see for yourself — soon!

THE MILFORD RIVET & MACHINE CO.

Plants: Milford, Conn.; Norwalk, Calif.; Elyria, Ohio; Aurora, Ill.; Hatboro, Pa.

Offices: Atlanta, Chicago, Cleveland, Detroit, Fort Worth, Indianapolis, Newark, New York, Pittsburgh, St. Louis, St. Paul, San Francisco, Seattle — and Norwalk, Calif.; Stratford, Conn.; Charlotte, N. C.; Seneca Falls, N.Y.; Jenkintown, Pa.; Westwood, Mass.

Headquarters for RIVETS
(Tubular, split and special cold-formed)
and Rivet-setting Machines



Commuter Battle Spans Hudson

New York City's commuter millions have made a lot of headlines during the past year, what with plans to bolster the faltering Long Island RR and a sheaf of pronouncements from the new heads of the New York Central RR and the New Haven RR. Now the headlines are coming from a quarter that's been pretty quiet until recently—the suburban counties across the Hudson River.

This week, embattled commuters in three of these west bank counties saw a gleam of hope for postponing their day of doom—the threatened discontinuance of passenger service on the West Shore RR (map). The gleam they saw was last week's announcement that the Port of New York Authority will finance a $500,000 study of New York-New Jersey rapid transit problems.

• **Issue**—Actually, these commuters are not yet faced with loss of train service. The New York Central announced early in December that it would petition to end passenger service on the West Shore and also to end ferry service across the Hudson connecting Weehawken with Manhattan.

So far, the Central has petitioned the Interstate Commerce Commission only to end its ferries—but the commuters argue that without ferry connections, trains are of little value.

• **Pro and Con**—The Central contends that the 4,000 commuters it says the West Shore carries don't justify its combined loss of $2-million from the line and ferries. There are plenty of alternate facilities now available, it says.

The commuters can't see it that way and are making up for their comparatively small numbers by the loudness of their protests. They claim to have 5,000 signatures opposing abandonment of service. Commuter groups are already vocal in Rockland County, N. Y., and Bergen County, N. J., with Hudson County (N. J.) commuters ready to

Now, faster, more economical figuring with *AUTOMATION

Read what Business says about the New MONRO*MATIC *Duplex Calculator*

Two months in action in leading industries, and in the users' own words, the Monro*Matic Duplex is years ahead!

From an electric utility: "Just what we needed for years... saves hours."

"Great for payroll... impressed by its simplicity," says oil company.

"Nothing like it for our type of figure work," from foundry.

"Invaluable for accumulating results," says box manufacturer.

The list is endless in praise of the new Monro*Matic Duplex. Companies large and small find it gives them *total automatic figuring!* The Monro*Matic Duplex begins where other calculators leave off. It adds *as* it multiplies. Adds *as* it divides. And, all important, it stores those answers for your later use. No need to re-do the whole problem later, step by step.

Yes, the Monro*Matic Duplex puts the modern miracle of automation to work for you, cuts through the toughest figuring work faster, more accurately, with fewer steps.

Ask your Man from Monroe for the whole story. Have him show you, on your own work, how the Monro*Matic Duplex reduces all figuring to feeding figures, pushing buttons. Monroe Calculating Machine Company, Inc., Orange, New Jersey. Branches Everywhere.

OPERATORS WHO KNOW... PREFER **MONROE** *CALCULATING, ADDING, ACCOUNTING MACHINES*

Rockwell Report

by W. F. ROCKWELL, JR.
President
Rockwell Manufacturing Company

THE GENERAL MANAGERS who run our plants are "on their own" to a greater degree, perhaps, than in many companies. This is due partly to distance; many of our plants are far from the headquarters office. But it's due mostly to our belief that no force is more productive than individual initiative stimulated by responsibility and opportunity for reward.

Each Rockwell General Manager is directly responsible for the overall success of the plant he operates. This includes, naturally, all of the obvious things such as production rates, cost per unit, product quality and performance, plant maintenance, safety, and labor relations.

But his responsibilities go beyond those tangibles to the many intangibles that constitute his, and Rockwell's, relations with the community. Wherever we operate we make every effort not merely to be tolerated by the community, but to become a worthwhile part of it. In addition to being good production men and good executives, our General Managers must also be good citizens in the finest sense of the word.

Ground rules of company policy are, of course, laid down by headquarters staff. We have prepared a check list of 81 factors a General Manager should keep in mind almost constantly. But this is a reminder only; he has the opportunity to use his own initiative and judgment to almost the same degree as if he owned the plant.

Obviously a great deal of care is used in selecting men in whom we can place that degree of confidence. Usually we discover them within our own organization. We've found that if you give the right man enough rope, he won't hang himself with it—he'll use it to pull himself to the top.

* * *

Recently we received news which serves to document the statement above regarding the constructive interest of our General Managers in the affairs of the communities where they work and live: two have been elected presidents of their respective Chambers of Commerce. Further statistics: for some time, two other Rockwell General Managers have been serving as directors of their Chambers . . . another is on the board of his state's Manufacturers Association . . . two home office executives are directors of the Chamber of Commerce in our headquarters city.

* * *

At quite a number of plant and office Christmas parties last month, our people instituted a heartwarming switch on the common practice of each person bringing a "gag" gift to be distributed for laughs. Instead, they spent the same amount of money for a child's toy. These toys were then collected and given to children in local orphanages in time to make Christmas a little happier than it would have been otherwise.

* * *

Through its Educational Service Bureau, the American Gas Association has developed an interesting program of school teaching aids called "Science in Action in the Gas Industry." As a part of this program we have produced special "classroom" models of the Rockwell "150" aluminum gas meter. Compact, light-weight, it has a special snap-fit housing so that it may be quickly dismantled for demonstration of "what goes on inside." These are used in conjunction with a teacher's text, wall chart and fact folders for students to simplify understanding of the enormous contributions of the gas industry to our civilization.

One of a series of informal reports on the operations and growth of the
ROCKWELL MANUFACTURING COMPANY
PITTSBURGH 8, PA.
for its customers, suppliers, employees, stockholders, and other friends

join a tri-county setup this week. T
New Jersey State Assembly got into
act by asking for the state to be
sented at ICC hearings on the
petition.

Like "Old" Russia

BOSTON—As far as New Engl
is concerned, N. Karev, correspond
for the Russian newspaper Pra
needs some schooling in his trade.

In an article in Pravda last week
Karev described New England as a
gion of "poverty and starvation." T
back this description, he pointed
smokeless factory chimneys, virtua
barren food stores, and almost pen
less customers. Karev made the ob
vations from what he said were vi
to three Massachusetts towns—Law
rence, Lowell, and Haverhill—and
Manchester, N. H.

After reading Sunday newspapers
which carried portions of the article
New England businessmen weren't sur
whether to pillory Karev or just t
laugh at him. Said Lowell's city man
ager: "The article is so ridiculous tha
it's funny. Nobody in Lowell lack
money to buy good food, even those on
welfare."

Richard Preston, director of Mass
chusetts' Commerce Dept., thought
"the Pravda man was looking in garbage
cans instead of where the garbage came
from."

Otis Talks Exodus

YONKERS, N. Y.—The prospect
of a new dose of employment trouble
faced this city of 160,000 this week.

At a meeting called in Brandt's
Theater last Saturday, L. A. Petersen,
president of Otis Elevator Co., told
some 2,000 local Otis employees and
city officials that unless the company
could bring about cost reductions at its
Yonkers plant "we will have no choice
but to transfer our manufacturing . . .
to a new midwestern plant." Petersen's
statement followed persistent rumors
that Otis was getting set to follow
Alexander Smith, Inc., in a Yonkers
exodus. Smith closed down its local
mill last fall and moved South.

Petersen, who refused to answer any
questions at the meeting, said that
studies had shown that Otis could make
a yearly saving of "several million
dollars" by building a single Midwest
plant to replace its Yonkers and Har-
rison (N. J.) works. However, he said
the company was willing to continue
in the East if it could make savings of
half that amount.

Petersen told the group he would
make specific proposals to union offi-
cials this week "outlining the conditions
which we consider reasonable and essen-
tial for continued future operations."

Giant fans expel 300,000 cu. ft. of air per minute from working areas through nylon fabric tubes.

How Anaconda clears the air— one mile down!

In man's search for metals and minerals, nature's obstacles frequently rival her rewards. Below the earth's surface, temperatures sometimes rise above 100°F. Humidity may be 98%. Dust thickens and clings.

Against this background, at Butte, Montana, famed Anaconda has carved out a fabulous labyrinth —the most extensive underground copper mine workings in the world and a triumph of men and machines.

Anaconda's advances in mine safety and working conditions are rewardingly illustrated in its ventilation tubes. Made of Wellington Sears filament nylon fabric coated with neoprene, these tubes force dust-laden air in mile-deep workings to proper exhaust exits. They bring greater comfort to miners. Their fabric must be flexible—it twists through corridors. It must be strong to withstand abrasion. It must be light (14 oz. a square yard) for easy movement. It must resist the disintegrating forces of heat, humidity, dust, mildew and acids. Wellington Sears is proud that its DuPont nylon fabrics will be installed in all Butte mine workings.

Whether your need is work-horse belting or ocean-going duck, chemical filters or aircraft laminates, Wellington Sears has been blueprinting fabrics for the job over 100 years. This unrivalled experience is at your service.

Wellington Sears

A Subsidiary of West Point Manufacturing Company

FIRST In Fabrics For Industry

For The Rubber, Plastics, Chemical, Metallurgical, Automotive, Marine And Many Other Industries

Wellington Sears Co., 65 Worth St., New York 13, N. Y. • Atlanta • Boston • Chicago • Dallas • Detroit • Los Angeles • Philadelphia • San Francisco • St. Louis

University of Virginia; Thomas Jefferson, Architect.

Leaders . . . for tomorrow

"What greater or better gift can we offer the republic than to teach and instruct our youth?"*

"SHOULD I GO TO COLLEGE?" That all-important question is in the minds of many high school students. That they find the right answer is equally important to every one of us . . . and to the future of America.

GREAT GAINS TO YOUTH have been accomplished through education. Still, four out of five of our young people do not go to college. Some of these may have a spark of genius, or leadership talent, that will be wasted through lack of educational opportunity.

400 UNION CARBIDE SCHOLARSHIPS have been provided for through The Union Carbide Educational Fund to encourage able and deserving students toward successful careers in business. Scholarships are now open without special restrictions—through 34 selected liberal arts colleges and technological institutes—to all students of high schools and preparatory schools.

THE PEOPLE OF UNION CARBIDE hope you, too—as you think of the future for your children and other deserving American youth—will do everything you can to encourage their ambitions for adequate education. Also, that you will join in giving co-operation and encouragement to those who guide and teach them.

TO LEARN MORE about the Union Carbide scholarships, their purposes, and the colleges, institutes, and universities in which they have been established, write for booklet Q.

*Cicero

UNION CARBIDE
AND CARBON CORPORATION
30 EAST 42ND STREET UCC NEW YORK 17, N.Y.
In Canada: UNION CARBIDE CANADA LIMITED

UCC's Trade-marked Products include

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PERSONAL BUSINESS

BUSINESS WEEK
JAN. 22, 1955

A BUSINESS WEEK SERVICE

You would be smart to start now gathering the **information and data you'll need for filing your 1954 federal income tax return.** Both the new law and new rulings require more study than usual if you are to get full savings.

One new special Treasury ruling has to do with **business and travel expenses**—an important item to executives. This has been a highly ambiguous field, subject to all kinds of interpretation. **The lengthy ruling is designed to clarify and define legitimate deductible travel expenses.**

Treasury's ruling is more liberal than you would think—it tends to give the breaks to the taxpayer. That's true in both the major questions it tries to answer: (1) When are you away from home? (2) How do you prove your deductions?

On the first question: **Treasury says you are away from home when your business trip forces you to stay over at least one night.** More specifically, your absence must be long enough so that you can't leave your home office at the start of the day and return to it at the end of the day.

But you run into trouble when **your home isn't in the local area where you hold your job.** Say you live in Philadelphia but work in New York. The law says that New York is your "tax home"—for purposes of taking the deduction.

So expenses incurred there aren't travel expenses, and your Philadelphia expenses are personal costs. Neither is deductible. (Important: Remember that under no circumstances can you deduct your commutation expenses between your home and your job.)

On the other hand, say you live and work in New York, and you take an overnight business trip to Philadelphia. In that case, your travel expenses are deductible.

What if you get income from two jobs in different localities? If you get a big income from one job and a small one from the other, your "tax home" is fixed by your principal business activity.

You deduct the travel expenses that are away from your tax home.

How do you prove your deductions? The easiest way, of course, is to keep accurate records of what you spend. Without them you may not only be unable to meet Treasury opposition successfully; you also may fail to take all you're entitled to.

By an accurate record, **the Treasury does not mean a bill for every meal, hotel accommodation, or transportation fare.** But it does insist on an adequate day-by-day record—dates, duration, and destination of each trip, totals paid for lodgings, meals, and fares.

Even if you have no such records you'll still get a deduction—although probably it will be less than it would be otherwise. In such cases the Treasury will allow you a reasonable approximation of your expenses. However, you must show time sheets, assignment lists, or other data from which you can reconstruct the number and duration of the trips.

How about travel expenses that don't fall into the "away-from-home" class? The law allows you to take these travel expenses if they come within the heading of either (1) local transportation expenses; or (2) outside-salesmen expenses.

The first category covers only **local transportation costs that are**

necessary to your job, such as going to see clients or customers. This would include taxi fares and tips, automobile running costs, and the like—but not hotel and meal costs.

Only full-time salesmen fall into the "outside-salesman" category. They can deduct not only all business travel expenses, but other job costs such as entertainment, secretarial help, and telephone. An executive who sells part-time can't take such deductions.

Note that these three classes of traveling expenses are deducted from your gross income to find your adjusted gross income (on page 1 of your return). That means that **you can deduct these expenses and still take the 10% standard deduction.** The law says that any amount paid to you to cover travel and transportation expenses must be added to your salary. Then, of course, you can deduct them in your return.

—•—

You can get a floater insurance policy on your dog. A minimum premium of $15 a year gives you $100 of insurance on any dog—champion show dog, family mongrel, or a hunting dog who lives dangerously. Coverage is against a number of perils on a comprehensive basis. The most important:

• **Being hit or run over** by an automobile or other vehicle (not owned or operated by the dog owner or one of his employees).

• **Theft** of the dog. (Another type of similar insurance, carried by veterinarians and kennel owners, substitutes burglary for theft. It covers your dog while in their keeping.)

• **Gunshot,** being bitten by another dog, accident to conveyance transporting him, and catastrophes such as fire, lightning, flood, and windstorm.

Rates are 15% of the first $100 ($15); 10% of the next $200; 7½% of the next $200; and 5% for any sum in excess of $500.

Premiums are a lot lower if you exclude the hazard of being hit or run over by an automobile. The rates: 10% for the first $100; 5% for the next $400; 3½% for any in excess of $500.

—•—

There's a three-month wait on delivery of the Thunderbird, Ford's new sport-type car. The delay probably will continue; production is scheduled for around 10,000 Thunderbirds a year. About 2,500 had been delivered as of Dec. 31.

—•—

Archery addicts will have a chance to shoot a giraffe—as well as a wide variety of small game—with bow and arrow next month.

In cooperation with Air France, National Field Archery Assn. will head the first archery safari to French Equatorial Africa. The expedition leaves New York Mar. 2. It is limited to 16 persons, lasts 27 days (including transportation), costs $1,946.70. (License for giraffe-hunting is $28.50 extra, plus another $17.20 head fee if your arrow hits its mark.)

Price includes meals, guides, native bearers, two hunting cars. Archers should take at least two hunting bows with a minimum 45-lb. pull, spare strings, and three-doz. broad-head hunting arrows. Experienced hunter-guides armed with rifles will be on hand to stop any wounded animals.

—•—

Reminder: Your quarterly payment of Social Security tax for domestic help is due Jan. 31.

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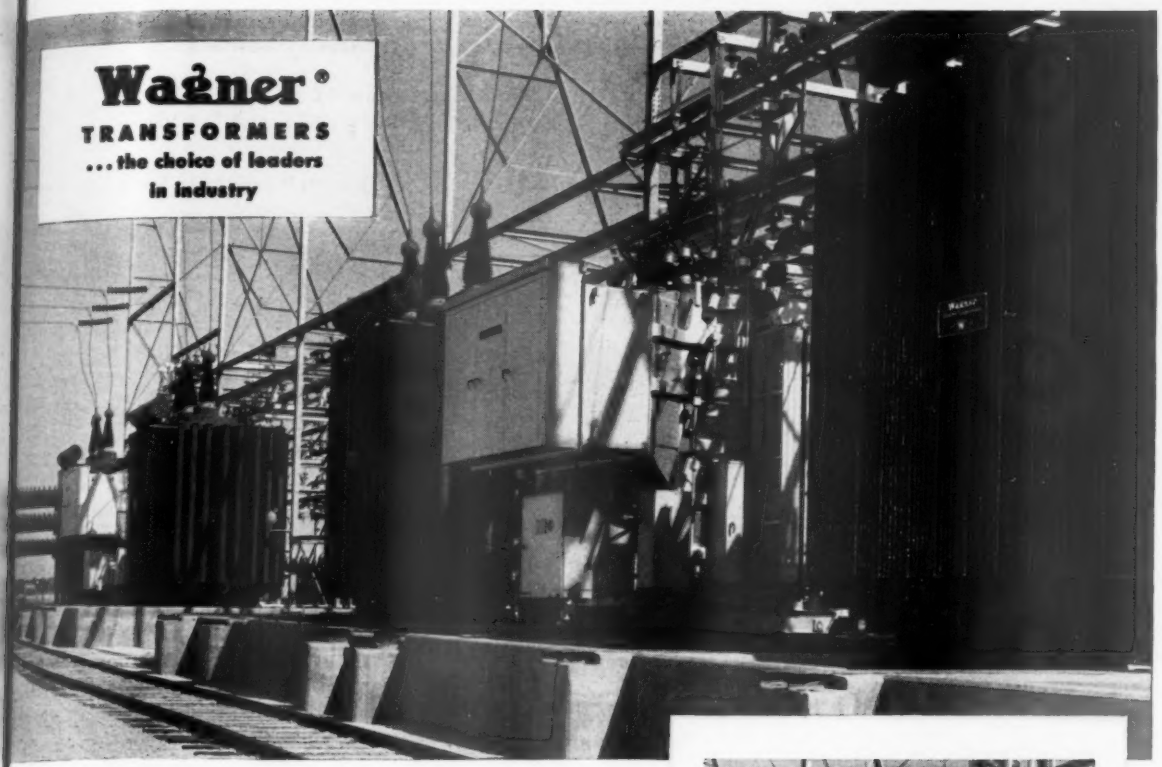


to produce an aluminum pig

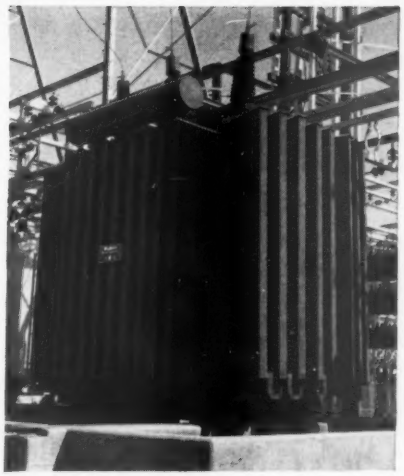
Aluminum, most abundant of all metallic elements on earth, would be one of our rarest metals were it not for the magic of electricity. The production of aluminum is a highly complex electrolytic process.

A major step in this process—the transformation of bauxite into 50 pound aluminum pigs—takes place in huge smelting plants, like the Rockdale, Texas plant of the Aluminum Company of America.

At Rockdale, Wagner transformers play an essential role in this process. This bank of four Wagner Power Transformers was recently installed in the main substation at this plant. Each is rated 25,000/33,333/41,667 kva, 138,000 to 13,800 volts.

Such banks of Wagner Power Transformers can be found at many great industrial plants . . . because they handle their never-ending job of supplying proper voltages for every purpose with great efficiency and dependability.

Let a skilled Wagner engineer discuss your transformer needs with you. Call the nearest of our 32 branch offices, or write us direct.



Here is one of the four Wagner Power Transformers that form the main substation shown above. Each is rated 25,000/33,333/41,667 kva.

Wagner Electric Corporation
EST. 1891

WAGNER ELECTRIC CORPORATION
6460 PLYMOUTH AVE., ST. LOUIS 14, MO., U.S.A.

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

ELECTRIC MOTORS
TRANSFORMERS
INDUSTRIAL BRAKES
AUTOMOTIVE BRAKE SYSTEMS—AIR AND HYDRAULIC

VT35-1

ONE MAN . . . . . 26 COMPANIES

The seals of 26 companies stacked in the closet at the right above are all handled by the man stepping down from his private plane at the left—J. R. Simplot of Boise. At 46, he's head man and sole ruler of an empire stretching through nine Western states and up to Alaska—and he runs it without benefit of boards of directors or other stockholders. That means an almost daily whirl through the air, personal contacts with hundreds of men, a lot of knowhow on lumber, mining, food processing, cattle raising, fertilizer. At right, Simplot is checking some of the 17,000 sheep on his Grandview (Idaho) farm.

It Takes Speed and Savvy Run

POTATOES gave Simplot his start and he knows them from seed to salad; finding them bruised, he orders better handling.

FROZEN spuds, too, are one of Simplot's most profitable lines; he samples taste as French fries go on their way to package.

y Run a 26-Tent Show

(Story continues on page 148)

LUMBER gets a close check, in one of his lumberyards. He went into lumber to get wooden boxes to pack dehydrated foods.

MINING takes a different kind of knowhow; Simplot is going over with researcher progress of studies in monazite processing.

BUTLER'S target: Finest factory-built steel building in U.S.A.

Die-formed, gang-punched panels give Butler buildings that custom-built look. Better weather protection, too.

. . . but step into a BUTLER building and see for yourself

Time was when metal buildings were used as sheds—relegated to industry's back yard. It wasn't the material's fault, but the way it was "designed" and built. Butler changed all that. You'll see Butler buildings used as factories, offices, laboratories, stores, terminals. Reason? Butler frame construction handles heavy suspension loads—gives you free use of inside space. Exterior cover is all die-formed and factory finished—then bolt-assembled. That gives you quick erection, "front-yard" looks, and a time-defying weather barrier. All this and more at a dramatically low cost. But step into a Butler building and see for yourself. Mail coupon today for full information.

BUTLER

Manufacturers of Oil Equipment
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Factories at:
Kansas City, Mo. • Galesburg, Ill. • Minneapolis, Minn.
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Please mail more information on Butler steel buildings.

NAME_____

ADDRESS_____

CITY_____ STATE_____

CATCHING UP on sleep is a must between flying visits to plants, so Simplot's plane has a couch. He logged over 100,000 mi. in 10 months on this plane (he has two).

Simplot, cont'd

An associate describes Idaho industrialist J. R. Simplot (cover and above), as a man who would buy a clothing store to get an overcoat—then turn the store into the town's best money-maker.

Simplot, shown on pages 146-147 at the one-man controls of his sprawling 26-company empire, hasn't bought a clothing store or clothing business—yet. But that's pretty much the way he operates. For example, look at the way Simplot got into the fertilizer business. A few years back he needed it—lots of it—to step up production of crops used in his booming food processing business. He couldn't buy enough, so he said, "I'll get my own." He found rich beds of phosphorus rock on an Indian reservation, got leases, went to work—and ever since he has sold fertilizer all over the Northwest and made good money at it.

• **Diversified "Rig"**—Multiply that story ten or a dozen times, or more, and you can see how Jack Simplot turned a $345 automatic potato sorter into the legendary first million anybody ever made in Idaho—and went on from that to build and run the "rig" he now operates. You can describe this rig in either of two ways:

• An empire that spreads over nine Western states and Alaska—grosses more than $30-million a year and nets him, Boise businessmen say, more than $1-million—and takes him into food processing (he's said to be the country's top man in frozen and dehydrated potatoes), lumbering, mining, farming and cattle raising, real estate and housing projects—even gold dredges and skilifts.

• A one-man show in 26 tents, run without a board of directors anywhere on the lot, and no outside stockholders. Simplot is president and owner and that's that. He has a staff of key men at Boise, and division and plant managers in his far-flung plants; but top management is under his hat. Three years ago he tried "business school management," got himself an executive vice-president. It didn't last. Now the 46-year-old former potato broker is back at doing it himself: "It's all mine, and that's the way I run it."

• **Idaho Version**—Collecting companies, of course, is a common activity these days (BW—Oct.30'54,p154), and many a smart young man is out on the hunt for profitable enterprises to buy into. Simplot is, too (right now, he's trying to get into titanium)—and so far he has done well at it. One Northwest business leader says, somewhat scornfully: "Simplot has merely been buying into everything in sight in an expanding market. How can you lose?"

But his employees insist that his Idaho version of company-collecting is different. "He not only buys," they say, "but he runs the thing. He is it. Anyone can buy a profitable business, but Jack has built nearly every outfit he owns, or found the raw material himself."

• **Concentrating**—At one time Simplot could count up even more than the 26 corporations he now has; he has gradually been bringing them under one company, the J. R. Simplot Co. The collection includes a partnership or two for convenience; otherwise everything is personally owned. Currently, Simplot is "concentrating" in seven fields:

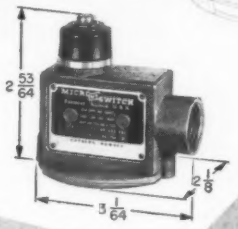
• Food processing, with dehydration, canning, and frozen food plants in four Idaho cities. They turn out 600,000

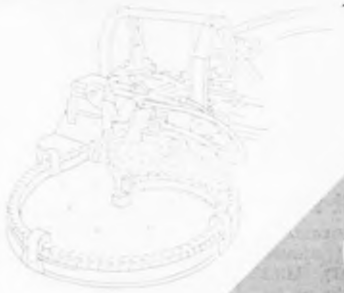
MICRO SWITCH Precision Switches

A PRINCIPLE OF GOOD DESIGN

5 Switches bring smooth operation to this automatic bottle labeler

This machine is designed to label bottles at from 90 to 180 per minute. MICRO SWITCH products were selected to prevent jamming or overload. Factors in their selection were precise, dependable operation, long life, quick response to light operating force and sealed plungers to keep out dirt and dust. Perhaps you need a switch to give a new "lift" to your new product. Take the short cut. Ask MICRO SWITCH engineering. There's no obligation.





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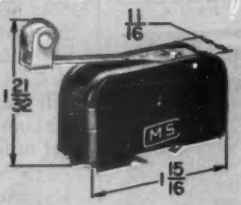

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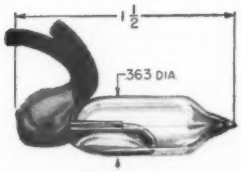

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CATTLEMAN Simplot, with feeder manager Bill Richardson, looks over 3,000-lb. steer, one of 4,500 head fattened on waste products from his food processing plant.

cases of canned goods a year, 5-million lb. of dehydrated products, 10-million lb. of frozen foods.

• Lumbering, with logging and mill operations in Idaho and California. His companies produce 85-million board feet of finished lumber a year.

• Mining—barite, fluorspar, monazite, and phosphate in Idaho; iron ore in Montana, Wyoming, Nevada, Alaska; uranium in Utah and Colorado.

• Farming and livestock. He ships 60-million lb. of raw potatoes a year, 5-million lb. of onions. His farms and ranches are in Idaho and Oregon.

• Produce. His buyers and warehouses are in Idaho, Washington, Oregon.

• Fertilizer. Supplied by a phosphorus rock mine at Pocatello, Idaho, his fertilizer plant turns out 100,000 tons of phosphate fertilizer yearly.

• Real estate—a 200-unit apartment development in Boise, one of 150 units in Pocatello, a subdivision in Boise, apartments and offices elsewhere.

• **Fast and Friendly**—The man who keeps all these activities under his hat and whose touch is on every one of the enterprises is husky, jovial, 5 ft. 11 in., fast-talking and fast-moving, with a booming voice, a swift mind, a Western farm boy smile, and a knack for getting along with people.

Simplot knows many of his 4,000 employees by their first names. Associates say his desire for popularity is one of his guiding traits.

Perhaps that's the reason for the informality that marks every phase of the Simplot operation, even the hiring of new men. One applicant for an important job was told, "You're hired after Jack gives the O.K." Three weeks later, the applicant got a call to come to the fertilizer plant for a night-time test by company executives of a new process. A man gave him a shovel, told him to "bear a hand," and joined in the shoveling himself. After a while, as the applicant recalls it, the man came over "and told me he was Jack Simplot and that I was hired."

The informality extends to his home life, too. He lives with his wife and two of his four children (the two oldest sons are married) in the two-story frame house he bought when he moved to Boise nine years ago.

• **Personal Touch**—Simplot runs his scattered operations from offices in the Continental Bank Bldg. (which he owns) in Boise. He has teletype connection with his major installations, but uses the phone more frequently. He hasn't much use for paper work ("I'm a businessman, not a clerk"), but does some dictating.

Even the telephone isn't close enough a touch for him, though, and that's why he has two planes and a pilot handy to whisk him around the Western states. Often, he takes the controls himself. In his two-motored Beechcraft alone, he has logged more than 100,000 miles in 10 months. During one period last summer, he was in the air on a business trip every day, except a few Sundays, for seven weeks.

There's no formula for his visits to his scattered plants. There's likely to be a look at how the new machinery is working, a fast walk around the plant, an office chat, and if everything is O.K., he'll take off again. But he can spot a wrong detail in quick time. At his Caldwell (Idaho) food processing plant, noticing an employee unloading potatoes from a freight car (picture, page 146), he said, "That's not a good chute, son; it bruises the spuds; get it changed."

• **Staff**—Simplot's small headquarters staff at Boise includes John M. Dahl, treasurer and auditor; Lloyd E. Haight, secretary and legal counselor; Hugh Larkin, handling plant safety and industrial relations; George McHugh, director of mining; Vern Tannlund, traffic supervisor, and half a dozen office workers.

Simplot has division and plant man-

HERDERS know Jack Simplot by first name, talk over sheepherding problems.

agers; six of the division managers rank as vice-presidents. All have a free hand—as long as they make money. Most are on a profit-sharing basis, and some make up to $75,000 a year.

Competitors describe Simplot as a "hard but fair dealer." Some former employees claim the word "hard" is the right one, say he is apt to "move you out" if he doesn't like things. Simplot himself says, "You've got to be tough." But for all that, most of his men have been with him for years, and express a devoted loyalty to him.

• **Root and Branches**—Simplot was born in Iowa, but his story starts in 1926 in Ashton, Idaho, with potatoes, the automatic sorter, and a lucky toss. The teenage Simplot and a companion saw a sorter at work, decided to buy one, made money, then disagreed on which farms to work. They decided to toss for the sorter, and Simplot won.

He expanded into more farming, more sorting, then turned to buying and selling potatoes—building his own cellars, buying and selling by day, sacking spuds and loading trucks by night. In 1940, following an onion shipment to California to "collect my money," he saw an onion dehydrator.

Back in Idaho, he went into the dehydration business, and by 1942 had what was probably the country's biggest potato dehydration plant. Wartime brought a heavy Army demand for other produce as well as potatoes.

The need for wooden boxes for his dehydrated potatoes took him into lumbering. He put waste material from his dehydration plant to use by going into the cattle business. Housing shortages cramped his employees after the war, so he moved into real estate and housing.

Simplot never overlooks a chance for profit. He turned sawdust from his lumber mills into fireplace logs. For his food plants he built his own ice plant compressors—then sold the surplus for refrigerator cars and railroad diners.

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FINANCIAL AID TO HIGHER EDUCATION

Business Aid for Our Colleges—Voluntary or Involuntary?

Previous editorials in this series have shown that:

- As a group the nation's independent, privately endowed colleges and universities are in grave financial trouble, and
- There are many different means by which business firms can extend a helping hand to these institutions.

This editorial, one of a series devoted to the financial problems of higher education, submits this proposition: **If business firms do not voluntarily go to the financial aid of higher education, there is every prospect that they will soon be providing more financial support for higher education involuntarily, through taxation.**

If this prospect materializes, one of the basic elements of a well-balanced system of higher education—a strong array of independent colleges and universities—may well be dangerously weakened if not destroyed. And in the process a potentially crucial bulwark for freedom of enterprise in the United States—that same strong array of independent colleges and universities—will be undermined.

Acceptance of these propositions implies absolutely no disparagement of tax-supported colleges and universities. These have an indispensable role in the total system of higher education in the United States. Leaders of these institutions would be among the first to agree that their position is strengthened by a strong system of independent institutions, supported privately rather than by political agencies.

What is the evidence that in one way or another, voluntarily or involuntarily, business will be giving more financial support to higher education? One impressive part of this evidence is provided by the recent rapid increase in the proportion of college and university students attending tax-supported institutions.

Rapid Shift in Enrollment

In the fall of 1952 tax-supported colleges and universities enrolled about 7.5 per cent more students than the independent institutions. In 1953 this percentage was doubled. And in 1954 the tax-supported institutions enrolled 26 per cent more students.

In the case of students entering college for the first time the relative growth of the tax-supported institutions recently has been even more striking. In 1952, the number of beginning students in the tax-supported schools, as reported by the U. S. Office of Education, exceeded those in the independent colleges and universities by 35 per cent. In 1954, just two years later, this figure jumped to 49 per cent.

Why has the proportion of students attending tax-supported colleges and universities been in-

creasing so rapidly? There are many reasons. But a dominant reason is that, in order to keep going at all, the independent institutions have been forced to make large increases in the prices they charge for instruction. The purchasing power of their endowment funds has been cut in half by price inflation. The capacity of the wealthy to supplement their endowments by gifts, as they have done in the past, has been greatly reduced by high taxes. As a result these schools have been forced to rely increasingly on higher prices for instruction (tuition as it is called in academic circles) to make both ends meet.

Since 1940, the independent colleges and universities have raised their tuition fees by an average of about 60 per cent. This is considerably less than the increase of about 100 per cent in prices generally since 1940. And it is nowhere near enough to prevent the faculty members of the independent colleges from faring miserably in terms of salaries, a matter of major national importance to which we shall return in this series. But the increase in tuition fees of the independent colleges has been much greater than the increase in the fees charged by the tax-supported schools. And that price differential increasingly tends to shunt students into the schools which are supported chiefly by taxes. Independent colleges now charge, on the average, about $580 per year for a full course of instruction while the tax-supported institutions charge, on the average, about $240.

Bigger Tax Bill in Prospect

A large increase in the total enrollment in our colleges and universities during the next decade is in prospect, particularly when the great increase in births during World War II is reflected in the number of young men and women of college age. With a total of 2.5 million students at present enrolled in our institutions of higher learning, it is estimated that the total will be over 3 million by 1960.

If this trend continues most of the anticipated increase in college and university enrollment will be concentrated in tax-supported institutions. Indeed, if the shift toward tax-supported institutions that has occurred in the last three years were to continue over the next six years at the same rate, about two million of the three million students anticipated in 1960 would be in tax-supported colleges and universities and one million in independent schools. In 1950 there was a 50-50 division in enrollment. This shift would mean, of course, a corresponding increase in the tax bill for tax-supported education. And of this bill, we can be sure that an ample share would be assessed against business firms.

No Easy Solution

The best way, of course, to put a brake on a soaring tax bill for higher education is to help the independent institutions get in shape financially to carry a larger share of the student load. For most companies the development of a mutually satisfactory program of financial aid for higher education is a complicated process. In fact, it is so complicated that some companies with an initial disposition to provide financial help are inclined to despair of working out a mutually constructive plan.

If, however, the leaders of business will contemplate seriously the only available alternative to their extending voluntary help to our independent colleges and universities, their determination to work out a plan will be strengthened. For that alternative involves a grave weakening of our system of higher education, together with an involuntary increase in the financial support of higher education by business. The increase would come through higher taxes. Contemplation of such an alternative should, if necessary, toughen the will of business firms generally to do everything possible to extend financial help to our independent colleges and universities.

This message is one of a series prepared by the McGraw-Hill Department of Economics to help increase public knowledge and understanding of important nationwide developments that are of particular concern to the business and professional community served by our industrial and technical publications.

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Donald C. McGraw

PRESIDENT

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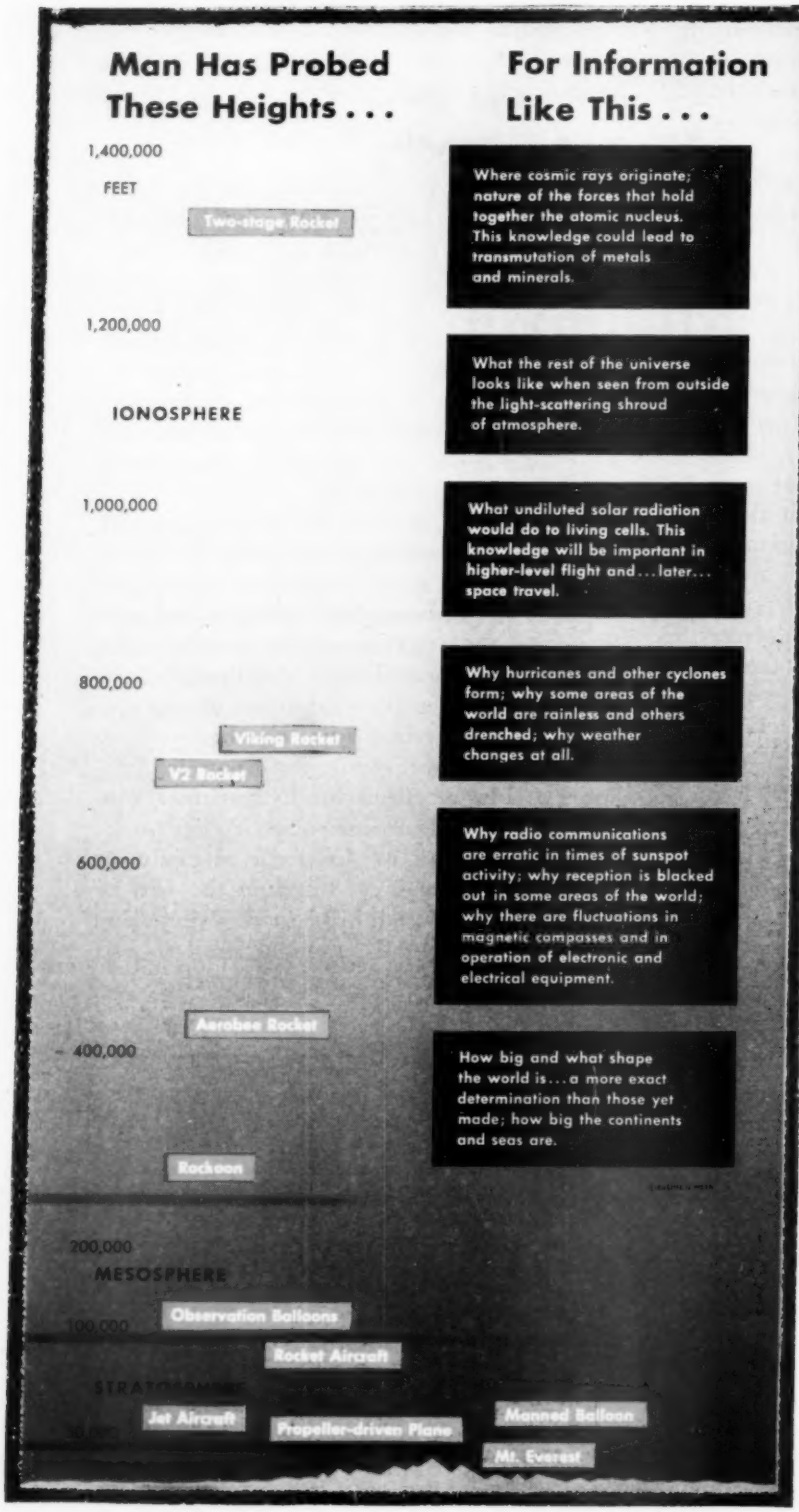
RESEARCH

Groping Toward Outer Space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What undiluted solar radiation would do to living cells. This knowledge will be important in higher-level flight and . . . later . . . space travel.
800,000
Viking Rocket
V2 Rocket
Why hurricanes and other cyclones form; why some areas of the world are rainless and others drenched; why weather changes at all.
600,000
Why radio communications are erratic in times of sunspot activity; why reception is blacked out in some areas of the world; why there are fluctuations in magnetic compasses and in operation of electronic and electrical equipment.
Aerobee Rocket
400,000
How big and what shape the world is . . . a more exact determination than those yet made; how big the continents and seas are.
Raccoon
200,000
MESOSPHERE
Observation Balloons
100,000
Rocket Aircraft
STRATOSPHERE
Jet Aircraft
Propeller-driven Plane
Manned Balloon
Mt. Everest

On Dec. 1, the U.S.S. Atka, a N icebreaker with a long record of serv in the Far North, left Boston Har carrying a party of scientists who w eventually set up an observatory at t South Pole. Last weekend the At arrived at Adm. Byrd's Little Amer

The tie between the icebreaker a the list of basic science problems the chart (left) is the Internation Geophysical Year, 1957-58. This is a year at all, but a term for a worl wide study of the sciences that are co cerned with astrogeophysical measu ments, meteorology, oceanography a glaciology, ionospheric physics, auro and airglow, geomagnetism, cosmic ra and rocket exploration of the upp atmosphere. This study will come to i climax in 1957 and 1958.

Most of the sciences to be covere deal with the upper atmosphere, th little-known region between 100,00 ft. and 1-million ft. straight up.

• **Most Ambitious**—To date, 38 cou tries have signed up to participate i the Geophysical Year. Besides th United States, there are the Sovie Union, with several of its satellite na tions, and most other large countries

This isn't the first time such an in ternational program has been tried, bu it's by far the biggest. The interna tional approach to geophysical problem was first attempted in 1882-84 during the First Polar Year (also a name coined for an intensive study over a period of years). It was tried again in 1932-33 during the Second Polar Year.

Both of these studies concentrated on regions around the North Pole. Even though the area was limited, the study of the ionosphere alone provided in formation about radio that is worth hundreds of millions of dollars.

The calendar years 1957 and 1958 were chosen because they will be a period of several major eclipses and ex ceptional solar activity. Top scientists are now working out programs to make maximum use of the observations.

In the U. S., the coordinating agency is the National Science Foundation. The observatory on the South Pole and another deep in Marie Byrd Land, Ant arctica, will be major contributions by this country.

I. Unknowns

The question naturally arises among laymen—and practically everyone who isn't intimately connected with these projects falls into that category—why so

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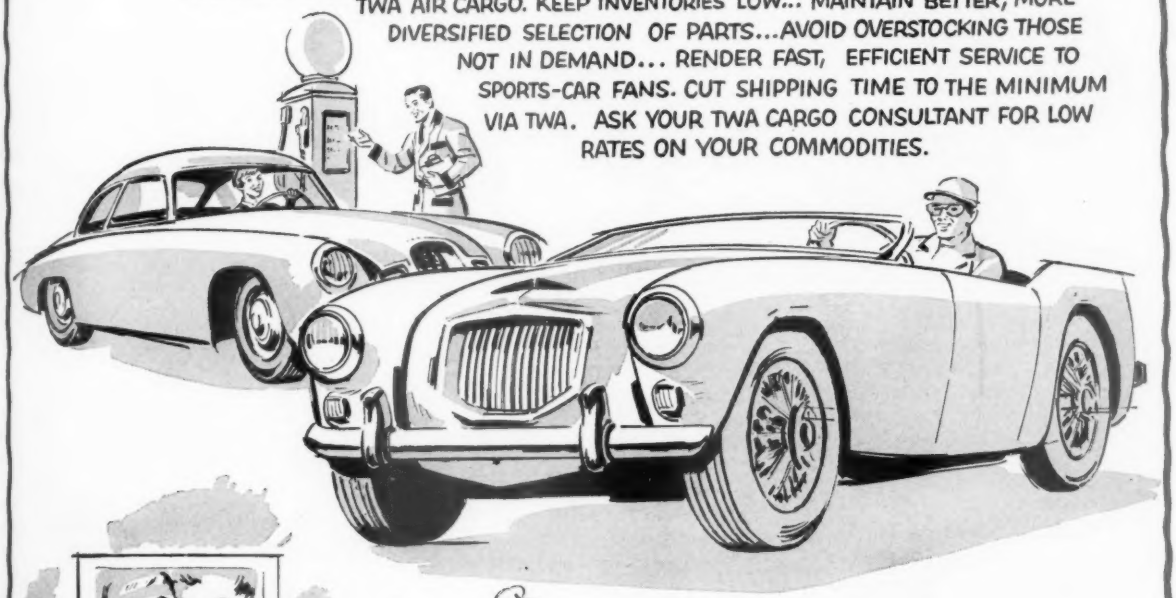

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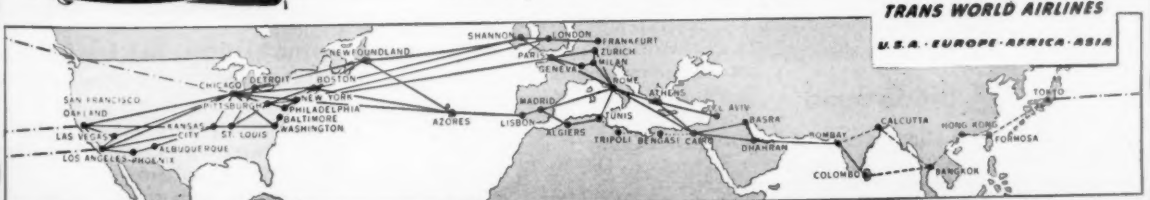


much fuss about something so ubiquitous as the sky? There's obviously a lot more to it than just the possibility of space travel.

There are, of course, strategic military reasons for wanting to know more about what lies above us. Airplanes are climbing closer to this area all the time, and rockets are already penetrating it. The area could be crucial in another war. But for the moment, civilian considerations far overshadow military possibilities. Many everyday activities of man are affected by the strange things that seem to happen in this area.

• **For Example**—There are, first, the obvious things such as reflection of radio waves by ionized layers in the atmosphere. These make it possible for us to talk to Europe and Asia, but there is still a lot more to be learned about them. There are mysteries about exactly what triggers the storms that give us rainy weekends or that turn into hurricanes with the destructive power of countless atomic bombs.

Then, too, many of the basic constants used in mapping and charting the globe are merely approximations. We have to get a bird's-eye view—a mighty high-level bird—of the earth to determine its exact size and shape, the exact location of the continents.

The upper atmosphere, if carefully observed, may provide answers to these questions as well as hints toward solving basic mysteries of life and matter.

• **Heart of Matter**—The key to all upper-atmosphere research is the question of energy. All of the complex and sometimes contradictory things that take place in the air around us—such as weather, radio transmission, magnetism—can probably be traced to variations in the energy entering our atmosphere from the sun and from space beyond our solar system.

Scientists feel that they could go a long way toward predicting changes in our atmosphere if they understood more about this incoming energy in its original state—before it is modified by the atmosphere.

• **Still Baffling**—Perhaps the most challenging feature of the upper atmosphere is its inaccessibility.

In the last 50 years the frontier of the upper atmosphere has been pushed back gradually. Scientists now have a fairly good idea of what the heights look like near a few of the best-equipped observatories, but there are tremendous gaps between stations. The hope is that some of the blanks may be filled during the Geophysical Year.

II. Getting Off the Ground

The great bulk of the data accumulated about the layers of air above us falls into the category of indirect observation. Unable to go up hundreds of thousands of feet, scientists have sought to learn what's up there by watching its effect on other phenomena. For example, they have studied the aurora and the glow of the night sky in polar regions and made inferences about the earth's magnetic field. They have observed very high nacreous or mother-of-pearl clouds and meteor trails and guessed the composition of the atmosphere at these levels, and the velocity of the winds.

However, the atmosphere scatters light and distorts vision from the earth. So scientists have more recently probed the upper air with radio pulses, sounding bombs, radar, and spectroscopes. From this sort of work, for example, we've picked up our knowledge of forecasting conditions for radio signals.

• **Reasonable Facsimile**—In some fields, scientists have tried to simulate the upper atmosphere in various types of pressure chambers. While this sort of thing works well for the troposphere (up to about 50,000 ft.), it becomes expensive and complicated as you try to simulate higher altitude conditions. At about 300,000 ft., for example, the pressure has already dropped to about that of the "vacuum" inside a light bulb. When you reach the area around 1-million ft., speeds of ions are so great that they can't be simulated in our biggest atom smashers.

The diffusion of atoms at very low pressures and temperatures therefore remains one of the great unknowns. If we could unlock the secrets of the forces that hold the nucleus of an atom together, anything might be possible—even the alchemist's age-old dream of transmuting metals.

• **Above 100,000 Ft.**—Until the end of World War II, the only direct observations of the upper atmosphere were obtained from instruments tied to weather balloons. These seldom penetrated above 100,000 ft. At the end of the war, however, science received a windfall: more than 100 unassembled V-2 rockets captured in Germany that were capable of attaining heights of 500,000 ft. and more.

A committee of top scientists was assembled in this country to determine what types of equipment could be carried aloft to get the most benefit from using these rockets in upper-atmosphere research. In 1946 through 1952, more than 60 of these rockets were assembled, tested, and fired.

The tests turned out extremely well. V-2s reached a record height of 692,000 ft. Scientists were able to use the direct recorded data from rocket-borne instruments to calibrate and adjust vast quantities of data they had accumulated in 50 years of indirect observation.

• **Successors**—The V-2, however, was not designed specifically for scientific testing, and it was far too expensive to reproduce exactly for the purpose. Many other programs of rocket development for upper-atmosphere research got under way. Some of these names are now familiar: WAC Corporal, Aerobee, Viking.

Much of the activity recently has been with a smaller and cheaper rocket known as the Deacon. It can be fired from shipboard or carried aloft by a balloon and fired after it has passed through the densest layers of the atmosphere. Balloon-launched Deacons are generally referred to in rocket circles as "rockoons."

The number of rockets of all types that have now penetrated above 100,000 ft. runs into several hundred. During the Geophysical Year, several hundred others will be launched.

• **Space Platforms**—The big trouble with rocket observations is their brevity. At best, a rocket is gathering data for only a few minutes. That's why there's so much talk about space satellites. These are no longer figments of the imagination of comic-strip artists or crackpot inventors. They are fast becoming a practical possibility.

Most of the components that would make up such space platforms have left the drawing boards. Transistors and miniature components are in commercial production. A solar battery, of the type that would have to recharge a satellite's batteries, has been demonstrated (BW—May1'54,p100). A telescope has been invented that would be able to track such a satellite.

The cost, of course, is still very high, and the day of launching such a vehicle will probably not come until long-range rockets have been tested in intercontinental operations. For scientists, however, the possibilities are intriguing. A satellite would give them continuous direct records of the influx of energy from outer space.

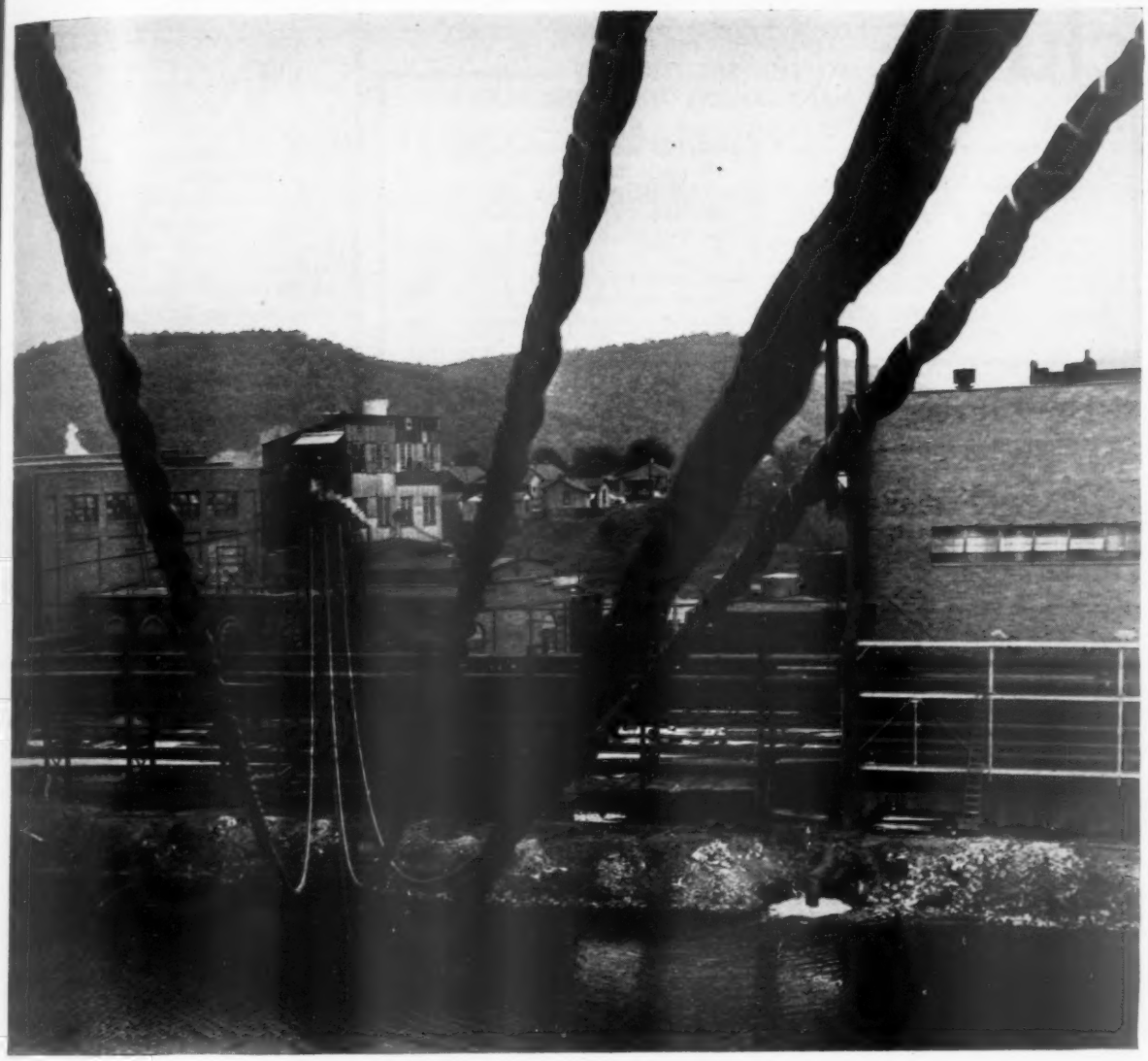
III. How High Is High?

On the basis of data already accumulated, one thing seems certain: The higher we probe, the higher we seem to have to go to get at the fundamental truths. Each new probing technique has produced a new set of data, which in turn has opened up new layers for study.

• **Layers Upon Layers**—The upper atmosphere is stratified. Layers at various heights have different temperatures, different wind velocities, different constituents.

Fifty years ago the stratosphere was considered very high. This is the area roughly between 50,000 ft. and 100,000 ft., depending on latitude and time of year. Temperatures are fairly constant, about 65F below zero.

Above the stratosphere, in the vicinity of 150,000 ft., you encounter a layer



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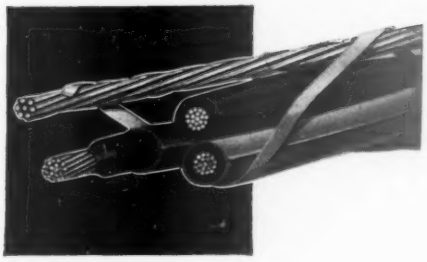

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known as the ozonosphere. In this lay the concentration of ozone, a rare form of oxygen, is 250 times as great as sea level. This high-level ozone absorb ultraviolet radiation from the sun. Without this protective blanket, every thing on the surface of the earth would be burned black.

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As altitude increases through the upper atmosphere, distances between particles get greater and greater, and temperatures may rise to many hundreds of degrees above those observed at sea level. But higher up, the ions eventually push farther and farther apart until finally there is only the vacuum of outer space, where the temperature is 460F below zero. Exactly where this level lies is still unknown.

RESEARCH BRIEFS

Pine needles may develop into a new commercial crop for Canada. At least two Canadian government agencies are experimenting with an essential oil distilled from the needles of spruce and balsam trees. The oil has potential uses as a chemical base for such products as antibiotics, insecticides, flavoring, and perfume.

•

Intriguing possibility of harnessing gamma rays for chemical processes such as polymerization, oxidation, and chlorination will be explored in a radiation laboratory to be installed at Diamond Alkali Co. Diamond is one of the first chemical companies to have a high-energy radiation source installed in its labs for industrial research.

•

By the numbers: Prof. Nicolas Rashevsky of the University of Chicago has developed a mathematical theory to help explain history. Using his formula, he concluded, for instance, that the very earliest cities had an average population of about 1,000 and were located a little more than 20 miles apart.

•

New England fishing, which has been in a slump partly as a result of stepped-up foreign competition, may benefit from research to be carried out by the Interior Dept., which has earmarked $160,000 for a year-round floating lab.

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Highways: Planning for Action

The report of the President's Special Highway Advisory Committee represents the first real attempt to tackle our highway problem since the automobile became synonymous with American progress. Its proposals for a $101-billion development program will be incorporated in a special Presidential message to Congress. The emphasis is on urgency, the need for action.

Until now, we have had no consistent or integrated program for building highways, despite the fact that the auto—more than anything else—is the hallmark of our society, the mainspring of our economy. Mass production and the assembly line are the distinguishing characteristics of our industrial strength. They are intimately associated with the automobile. The auto industry itself is recognized as a crucial sector of our economy, and when it falters, the entire nation feels the impact. By the same token, when the industry is booming, the economy radiates good health.

The cultural impact is no less great. Americans, the most mobile people since the era of Genghis Khan, have been made infinitely more mobile by the automobile. We are, in fact, a nation on wheels, with our sprawling cities and suburbs, our motels and shopping centers, our drive-ins and our trailers.

Roads Left Far Behind

This enormous impact has taken place in the short space of 50 years. The auto created a need for roads that has literally changed the face of the nation. Yet the production of cars and technological innovations in design have far outstripped highway construction. Roads have been built, of course, but more often than not they have proved inadequate—in size and safety—as soon as they were completed.

The sad fact is that we have never caught up with the demands of the automobile, and the increasing pressure of the auto has created almost insuperable problems. The auto, for example, has played an enormous role in the urbanization of America, but now our cities are being strangled to death in their own traffic.

In attacking the problem created by our auto culture, the President's committee wisely considered the need to keep our highway system in step with the growth of our economy. It recognized, however, that future expansion depends on our belatedly setting out to develop a road network to deal with the present demand.

The cost of this program is necessarily large, but it is the kind of expenditure that will create new businesses and new jobs. It will serve as a stimulus to our economy where and when it is most needed.

In making its recommendations, the committee suggests the establishment of a new federal corporation to raise $31-billion of the total. The federal corporation would issue bonds payable from gasoline taxes, thus avoiding an increase in the federal debt. In any case, it looks to the state and local governments to pay for the bulk of the project.

This cost-sharing plan is consistent with over-all Administration philosophy, and it deserves widespread support. The details have yet to be fully worked out, but there is no doubt that the cost of building a modern highway system will require a contribution from the American motorist—which means the majority of our citizens. The needs are so great and the benefits so large that most Americans, we believe, will do their part in the development of a highway system equipped for the demands of our auto culture.

Controlling a Colossus

Any way you measure it, the federal budget is a colossus. The fiscal 1955 budget document contains 1,288 pages, weighs five and a half pounds, and gives the details on government expenditures that will absorb over 15% of all goods and services produced in the nation.

Such massive size and complexity have gravely hampered efficient evaluation of spending programs and effective control over expenditures. That is why we welcome the study of the budget made by the Committee for Economic Development. The CED study, titled Control of Federal Expenditures, emphatically states that any program of cutting federal costs depends on changing budget procedures.

According to the CED, the "manner in which the budget is prepared in the Executive branch and the manner in which Congress considers the budget in making appropriations are at the heart of the problem." It finds that the present budget is presented in splintered or piecemeal fashion, with no real relation between revenues and expenditures.

Good housekeeping is what the CED recommends. It urges the use of a "program budget," which groups expenditure requests by function involving the same policy goal rather than by organization unit. It also proposes the creation of a Joint Budget Policy Conference, a Congressional group to meet with the President for examination of major expenditure and revenue problems. And it recommends that the budget itself be confined to major issues, so that Congress will be able to make better decisions.

These CED proposals merit close attention. Every cost-conscious executive realizes the need for concise and clear information on expenditures and revenues in his own business. The federal budget may be of different magnitude, but it should be understandable to the expert and layman alike. A clearer, more logical budget will, in the long run, result in less money spent and more things done.

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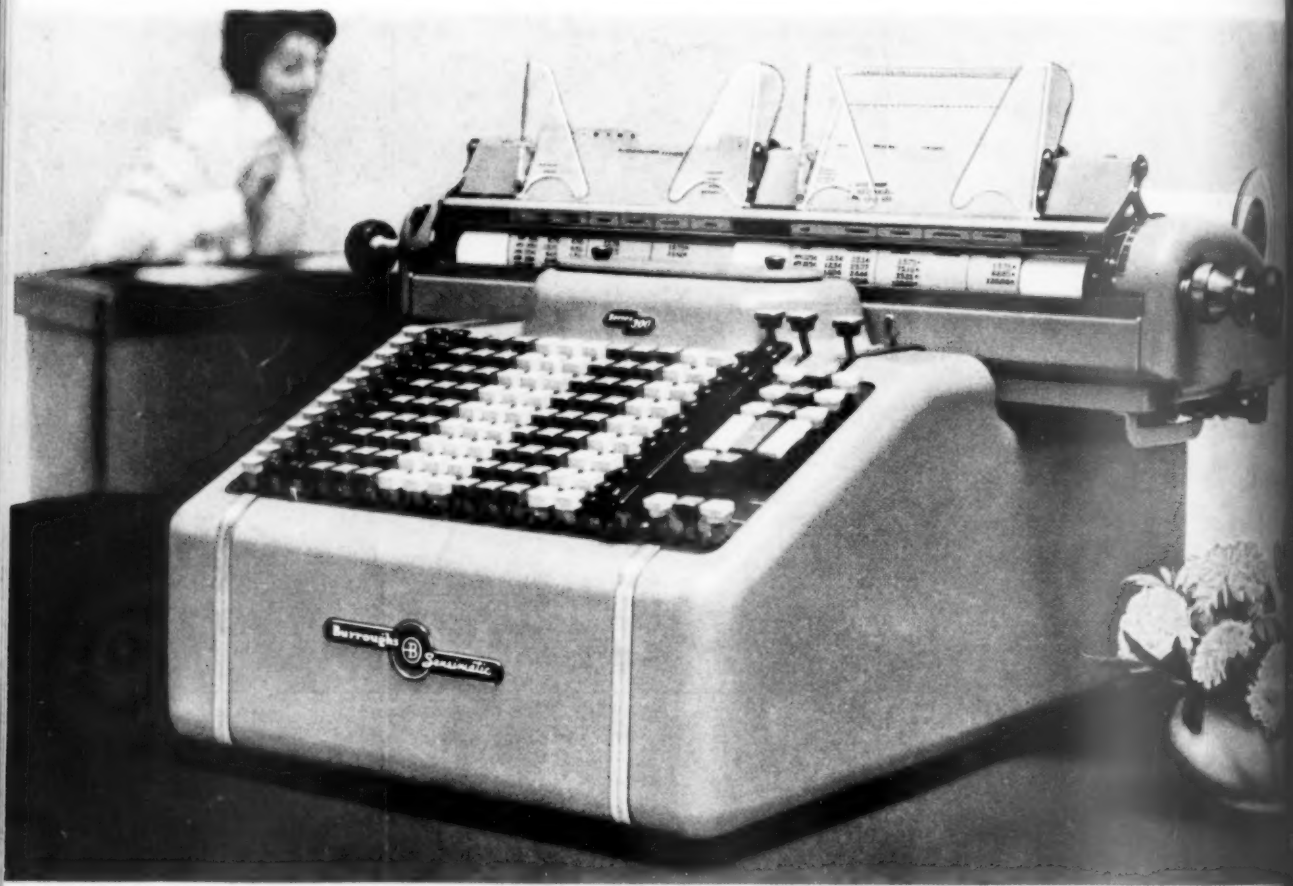

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Look at this contrast: Stewart-Warner, a large corporation with many products, has accounting departments staffed by more than four hundred people. The Renier Company, a thriving retailer of lumber and builders' supplies in Lincoln Park, Michigan, has just two girls for all accounting.

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